# SMOLEY'S
# PARALLEL TABLES
# *of* LOGARITHMS
# *and* SQUARES

NINTH EDITION

C.N. CASPAR Co.
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# SMOLEY'S TABLES

PARALLEL TABLES
OF
LOGARITHMS AND SQUARES

DIAGRAMS FOR SOLVING RIGHT TRIANGLES

ANGLES AND TRIGONOMETRIC FUNCTIONS
CORRESPONDING TO GIVEN BEVELS

COMMON LOGARITHMS OF NUMBERS

TABLES OF LOGARITHMIC AND NATURAL
TRIGONOMETRIC FUNCTIONS
AND OTHER TABLES

*For Engineers, Architects and Students*

Withdrawn from University of Illinois Library Urbana-Champaign

BY
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# PREFACE TO NINTH EDITION

The scope of Part One of this volume has been enlarged by the inclusion of a Multiplication Table for Spacing of Lattice Bars. This table will be found useful for laying out certain steel columns, bridge chords, and other structural members in which lattice-bar construction is used. The values in this table are given in intervals of 1/8 inch from 6 inches to 2 feet. For spacings less than 6 inches the Multiplication Table for Rivet Spacing may be used.

Part Two of this book has been increased by the addition of the following tables:

(1) Lengths of Arcs for Radius 1.
(2) Areas of Circles for Diameters in Units and Fractions.
(3) Circumferences of Circles for Diameters in Units and Fractions.

Tables (2) and (3) run in parallel columns by intervals of 1/32 from 0 to 1, by intervals of 1/16 from 1 to 8, by intervals of 1/8 from 8 to 96, and by intervals of 1/4 from 96 to 100.

Besides the mentioned improvements, a special effort has been made to secure a particularly strong binding and for the first portion of the main tables an especially strong bond paper has been used. In addition, for the convenience of reference, certain parts have been transposed; namely, the table entitled Logarithms and Squares by Intervals of One Sixty-Fourth of an Inch has been placed in the front and the Explanations and Examples, at the back of Part One; also to be mentioned is the revision and extension of the Table of Constants Frequently Used in Calculations.

Since the eighth edition of this book was published, a new book of tables, by the same author, has appeared on the market. It is called Parallel Tables of Slopes and Rises, and contains Ready Solutions of Right Triangles for Given Bevels.

As this new book is essentially an extension of the Parallel Tables of Logarithms and Squares, many draftsmen will no doubt find it convenient to have both books in one volume. A combined edition containing both books in one volume has therefore been provided for. In this combined volume the portion of the Parallel Tables of Slopes and Rises containing reprints from the Logarithms and Squares has naturally been omitted.

THE AUTHOR.

711 Monroe Avenue, Scranton, Pa.
January, 1920.

# Preface to Fifth Edition.

This edition is a combination of the old set of tables of the previous edition, to which has been added *a multiplication table for rivet spacing*, with a new set of 5-decimal logarithmic-trigonometric tables, comprising the following separate tables:

1. Common logarithms of numbers from 0 to 10,000, with tables of proportional parts.

2. Logarithms of the sine and tang. from 0° to 3° and of the cosine and cotang. from 87° to 90°, varying by 10 seconds, with proportional parts for single seconds.

3. Logarithms of the sine, tang., cotang. and cosine for each minute of the quadrant, with proportional parts for seconds.

4. Natural functions.

Of these, the table of log. functions is, of course, the most important one, and special attention is called to its new arrangement, the advantage of which consists mainly in relieving the eye of the great mass of figures concentrated on the pages of the old arrangement; it also permits the use of larger type and clearer distribution of same.

With the inclusion of the new set of tables, this book not only completely covers the field of all classes of technical work,* but it has become a *Universal Calculator*, being available for computations with the United States or English measures as well as with decimals (metric or feet).

While these new features of the book will appeal to students and such engineers and draftsmen as have a variety of computations to deal with, there will be many users whose special field of computations can be covered either with the "old" or the new set of tables alone, and this is the reason why these two sets of tables are published separately.

673 N. Claremont Ave. THE AUTHOR.
CHICAGO, January, 1908.

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*Except, of course, where 7 decimal tables like Bruhn or Vega will be needed, but this will generally be the case when calculations exact to $\frac{1}{32}''$ with dimensions between 50 and 100 feet and to $\frac{1}{16}''$ with dimensions above 100 feet will be required.

# PREFACE TO THIRD EDITION.

The success achieved by the previous editions of this work encouraged the author to undertake its extension to 100 feet. The extended part has, however, been tabulated by steps of $\frac{1}{16}''$ instead of $\frac{1}{32}''$ as the latter for lengths of over 50 feet would have little value, if any.

The computation and checking of the extended part has been carried out in the same careful manner as the old tables and it is therefore believed that it is as accurate as the old tables proved to be.

The parallel system of tabulation, visa the placing of the squares and logs. of the same numbers opposite each other, has been retained, this arrangement offering a number of advantages, namely: (1) The square and the log. of a number are often needed at the same time. (2) In many calculations the square of a number is given and its log. required or vice versa, the number itself being of no use to the calculator; the parallel arrangement of the tables enables in such cases the reading of the log. directly from its square or vice versa. (3) The log. of the square can be obtained by multiplying its corresponding log. item by 2.

In an article by Mr. F. D. Davis entitled: "Smoley's Tables; Some Convenient Methods by Their Use," published in the Engineering News of Dec. 25, 1902, Mr. Davis is discussing this special feature of these tables (visa their parallel arrangement) demonstrating the usefulness resulting from it by applying the tables to a number of examples relating mainly to mensuration. But in the opinion of the writer the parallel combination of the tables finds its most effective field of application in the solution of triangles for the purpose of figuring the data required for structural detail drawings. The most general problem we have here to deal with is this: With two given sides of a right-angle triangle, usually the main dimensions of the frame (as in a roof truss the half span and rise), to find: 1, the hypothenuse; 2, the bevel or slope; 3, the log. functions of the angles of the triangle, the latter for the purpose of figuring the diagonals of the frame, etc. Not only does the parallel combination of the tables enable the figuring of these three data in one process of calculation, but they are mutually checking

each other at the same time. In examples VI and VIII, pages 328 and 330, the hypothenuse, bevel, log tang. (visa the log. of the bevel) and log. sec. are obtained, the log. of any other function can be figured in the same manner as the log sec.

The Parallel combination of the logs. and squares is thus *dispensing with the use of trigonometrical tables* for all ordinary work of the structural draftsman, limiting their use to the rare cases where angles are given or required expressed in degrees, minutes, etc. The Table of Angles and Log Functions corresponding to given bevels, inserted in this edition, will in many such cases answer the purpose. The uses to which this table can be applied are manifold; a few more typical are here mentioned:

1. It offers an exact and rapid solution of a right-angle triangle when given by the bevel and one of its sides. When the bevel is a derived quantity and consequently approximate, the solution is also approximate, but sufficiently exact for many practical considerations.

2. The bevel or slope can directly be read from the angle expressed in degrees, minutes, etc., or vice versa.

3. The bevel can be obtained from the hypothenuse and one of the sides of the triangle without first figuring the other side by means of the table of squares. A few numerical examples showing the application of this table will be found on pages 302 and 303.

CONSTANTINE SMOLEY.

673 N. CLAREMONT AVE.
CHICAGO, ILL., MARCH, 1906.

# PREFACE TO FIRST EDITION.

This work contains logarithms and squares of feet, inches and fractions thereof expressed in decimals of a foot and varying by $\frac{1}{32}$ of an inch from zero to fifty feet. While this table of logarithms is published for the first time, there are already in use two tables of squares, one by Mr. Buchanan, and the other, a more recent work, by Mr. Hall, whose tables give squares varying by $\frac{1}{16}$ of an inch, while the author's table enables the calculator to obtain results up to fifty feet in thirty-seconds of an inch without interpolation, which is a greater advantage than tables varying by $\frac{1}{16}$ of an inch for lengths up to 100 feet. The number of cases where it is desirable to obtain results in thirty-seconds of an inch for the lengths less than fifty feet, by far exceed those cases where calculations are to be made with dimensions from 50 to 100 feet. In the latter cases the calculator can work with the dimensions divided by two and then by multiplying his results by two, still obtain them correct to $\frac{1}{16}$ of an inch without interpolation. The distinctive feature of this work, however, is its new element—the table of logarithms. This opens up a wider field of application than the squares themselves, and the combination of both tables increases the value of each of them. It will be of special value to the structural draftsman, as the most frequent problems he has to deal with are handled by means of these tables with great saving of time and fewer chances of making errors, as can be seen from the examples shown at the end of this book.

One of the German philosophers has said that "Method is the soul of Philosophy," and it is equally true in a work of this kind that method gives value and insures reliability. As regards the table of squares, we give Mr. Buchanan full credit as pioneer in this field, but his method is primitive, and his work lacks accuracy, as has already been pointed out by Mr. Hall, whose method is entirely correct. But the author made use of a still different method, having the advantage over Mr. Hall's in being simpler, requiring less work, and making it easier to check. It is as follows:

Let $a^2$ be the *first* item in any column in our table of squares, $a$ being equal to any whole number of feet plus a whole number of inches expressed in decimals of a foot; let, further, $b = \frac{1}{32}''$ in

decimals of a foot and $n$ denote any whole number between 0 and 32.; any other item in the same column is then equal to $(a+n\,b)^2$, and the difference between any two consecutive items in that column can be expressed in the formula:

$$(a+nb)^2-[a+(n-1)b]^2=2ab+(2n-1)b^2.$$

Now, if $a^2$ is known, all the 32 items of the column can be obtained by consecutive additions to $a^2$ of the constant for that column, $2ab$, and the 32 different values of $(2n-1)b^2$. As these latter 32 values are constant for all columns of the table of squares, we have figured them out, and printed them in rotation on blank forms, leaving between each two a space for the item itself, and at the top of every blank we have put its corresponding $a^2$. We also have put in the items for each $\frac{1}{2}''$. The value of $2ab$ having been written on a slip of paper we place it over $a^2$ and add it with $a^2$ and the first printed value of $(2n-1)b^2$ for $n=1$, and the first item is thus obtained; the slip is then moved down and added with the item just obtained and the second printed value of $(2n-1)b^2$ for $n=2$, and so on; only one addition being thus required to obtain an item, and after every 16 additions we have to obtain the item previously put in the blanks — that is, the top and the middle items. The latter we worked out in a manner similar to that just described, $a$ denoting any whole number of feet; $b=\frac{1}{2}''$ in decimals of a foot, and $n$—any whole number between 0 and 24. It needed to be figured only to 12 feet, as after that the decimals repeat themselves. After the blanks were filled out, we compared every second item with those of Mr. Hall's tables, only three errors having been found in the latter. In order to discover any self-balancing error in the odd items, another table was calculated for the odd items and compared with the first results. The computation has been carried out to 7 decimals and reduced to 4; the first four pages to 11 and reduced to 6 decimals.

The computation of the table of logs. is based upon the formula:

$$\text{Log}\,\frac{a}{b}=\text{Log}\,a-\text{Log}\,b=\text{Log}\,a+\text{Colog}\,b.$$

Accordingly

$$\text{Log}\,(f'+t'')=\text{Log}\,\frac{12\,f+t}{12}=\text{Log}\,(12\,f+t)-\text{Log}\,12\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

$$\text{or}=\text{Log}\,(12\,f+t)+\text{Colog}\,12\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(1a)$$

$$\text{also Log}\,\left(f'+t''+\frac{t'''}{32}\right)=\text{Log}\,\frac{12\times32\,f+32\,t+t}{12\times32}=$$

$$=\text{Log}\,(12\times32\,f+32\,t+t)-\text{Log}\,384\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

$$\text{or}=\text{Log}\,(12\times32\,f+32\,t+t)+\text{Colog}\,384\ldots\ldots\ldots\ldots\ldots\ldots(2a)$$

The log. of any item is thus equal to the log. of the number of 32nds contained in that item, *minus* the constant log. of the number 384 or *plus* its Colog. If N be this number of 32nds contained in any item, ($N=12\times32f+32i+t$), the difference between the logs. of two consecutive items equals

$$d=\text{Log.}\frac{N+1}{384}-\text{Log.}\frac{N}{384}=\text{Log. }(N+1)-\text{Log. }N$$

This difference can easily be taken from a standard logarithmic table.

The top items of all columns having been determined by formulæ (1) and (1a), they and the difference $d$ having been put on blanks printed for this purpose, the work was then carried on by means of consecutive additions of the differences, after every 32 additions having had a check in the first item of the next column. Independently of this we figured the table of logs. by the formula (2a) that is, by taking in rotation the logs. of all numbers from 1 to 19200 and adding to each log. the colog. of 384—and compared both results, and, finally, we used the formula (2) for checking the electroplates.

Vega's 7 decimal log. tables have been used, and the computation carried out to 7 decimals and reduced to 5. In all cases where the last two figures of the 7 decimal Log. are 50, reference has been made to the "U. S. Coast and Geodetic Survey's" 10 decimal Log. tables.

On the last pages of this book will be found some explanations and examples showing the use of these tables. The former are intended for those who are not familiar with the use of Log. tables.

CONSTANTINE SMOLEY.

CLEVELAND, O., AUGUST, 1901.

| 64ths. 32ds, etc. | 0″ | | 1″ | | 2″ | | 3″ | |
|---|---|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | ——— | .00000 | 8.92082 | .00694 | 9.22185 | .02778 | 9.39794 | .06250 |
| 1 | 7.11464 | .00000 | 8.92755 | .00716 | 9.22523 | .02821 | 9.40020 | .06315 |
| 1/32 | 7.41567 | .00001 | 8.93418 | .00739 | 9.22858 | .02865 | 9.40244 | .06381 |
| 3 | 7.59176 | .00002 | 8.94071 | .00761 | 9.23191 | .02910 | 9.40467 | .06447 |
| 1/16 | 7.71670 | .00003 | 8.94715 | .00784 | 9.23521 | .02954 | 9.40689 | .06513 |
| 5 | 7.81361 | .00004 | 8.95349 | .00807 | 9.23849 | .02999 | 9.40911 | .06580 |
| 3/32 | 7.89279 | .00006 | 8.95974 | .00831 | 9.24174 | .03044 | 9.41130 | .06647 |
| 7 | 7.95974 | .00008 | 8.96590 | .00855 | 9.24497 | .03090 | 9.41349 | .06714 |
| 1/8 | 8.01773 | .00011 | 8.97197 | .00879 | 9.24818 | .03136 | 9.41567 | .06782 |
| 9 | 8.06888 | .00014 | 8.97796 | .00903 | 9.25136 | .03182 | 9.41783 | .06850 |
| 5/32 | 8.11464 | .00017 | 8.98387 | .00928 | 9.25452 | .03229 | 9.41999 | .06918 |
| 11 | 8.15603 | .00021 | 8.98970 | .00954 | 9.25765 | .03276 | 9.42213 | .06987 |
| 3/16 | 8.19382 | .00024 | 8.99545 | .00979 | 9.26077 | .03323 | 9.42427 | .07056 |
| 13 | 8.22858 | .00029 | 9.00113 | .01005 | 9.26386 | .03371 | 9.42639 | .07125 |
| 7/32 | 8.26077 | .00033 | 9.00673 | .01031 | 9.26693 | .03419 | 9.42851 | .07195 |
| 15 | 8.29073 | .00038 | 9.01227 | .01058 | 9.26997 | .03467 | 9.43061 | .07265 |
| 1/4 | 8.31876 | .00043 | 9.01773 | .01085 | 9.27300 | .03516 | 9.43270 | .07335 |
| 17 | 8.34509 | .00049 | 9.02312 | .01112 | 9.27601 | .03565 | 9.43479 | .07406 |
| 9/32 | 8.36991 | .00055 | 9.02845 | .01140 | 9.27899 | .03614 | 9.43686 | .07477 |
| 19 | 8.39339 | .00061 | 9.03372 | .01168 | 9.28196 | .03664 | 9.43892 | .07548 |
| 5/16 | 8.41567 | .00068 | 9.03892 | .01196 | 9.28490 | .03714 | 9.44097 | .07620 |
| 21 | 8.43686 | .00075 | 9.04406 | .01225 | 9.28783 | .03764 | 9.44302 | .07692 |
| 11/32 | 8.45706 | .00082 | 9.04914 | .01254 | 9.29073 | .03815 | 9.44505 | .07764 |
| 23 | 8.47637 | .00090 | 9.05416 | .01283 | 9.29362 | .03866 | 9.44708 | .07837 |
| 3/8 | 8.49485 | .00098 | 9.05912 | .01313 | 9.29648 | .03917 | 9.44909 | .07910 |
| 25 | 8.51258 | .00106 | 9.06403 | .01343 | 9.29933 | .03969 | 9.45110 | .07984 |
| 13/32 | 8.52961 | .00115 | 9.06888 | .01373 | 9.30216 | .04021 | 9.45310 | .08057 |
| 27 | 8.54600 | .00124 | 9.07368 | .01404 | 9.30497 | .04073 | 9.45508 | .08131 |
| 7/16 | 8.56180 | .00133 | 9.07843 | .01435 | 9.30776 | .04126 | 9.45706 | .08206 |
| 29 | 8.57704 | .00143 | 9.08312 | .01466 | 9.31054 | .04179 | 9.45903 | .08281 |
| 15/32 | 8.59176 | .00153 | 9.08777 | .01498 | 9.31330 | .04232 | 9.46099 | .08356 |
| 31 | 8.60600 | .00163 | 9.09236 | .01530 | 9.31604 | .04286 | 9.46294 | .08431 |
| 1/2 | 8.61979 | .00174 | 9.09691 | .01563 | 9.31876 | .04340 | 9.46489 | .08507 |
| 33 | 8.63315 | .00185 | 9.10141 | .01595 | 9.32146 | .04395 | 9.46682 | .08583 |
| 17/32 | 8.64612 | .00196 | 9.10586 | .01628 | 9.32415 | .04449 | 9.46875 | .08660 |
| 35 | 8.65871 | .00208 | 9.11027 | .01662 | 9.32683 | .04505 | 9.47066 | .08736 |
| 9/16 | 8.67094 | .00220 | 9.11464 | .01695 | 9.32948 | .04560 | 9.47257 | .08813 |
| 37 | 8.68284 | .00232 | 9.11896 | .01729 | 9.33212 | .04616 | 9.47447 | .08891 |
| 19/32 | 8.69442 | .00245 | 9.12324 | .01764 | 9.33475 | .04672 | 9.47637 | .08969 |
| 39 | 8.70570 | .00258 | 9.12748 | .01799 | 9.33736 | .04728 | 9.47825 | .09047 |
| 5/8 | 8.71670 | .00271 | 9.13167 | .01834 | 9.33995 | .04785 | 9.48013 | .09125 |
| 41 | 8.72742 | .00285 | 9.13583 | .01869 | 9.34253 | .04842 | 9.48199 | .09204 |
| 21/32 | 8.73789 | .00299 | 9.13994 | .01905 | 9.34509 | .04900 | 9.48385 | .09283 |
| 43 | 8.74811 | .00313 | 9.14402 | .01941 | 9.34763 | .04958 | 9.48571 | .09363 |
| 11/16 | 8.75809 | .00328 | 9.14806 | .01978 | 9.35017 | .05016 | 9.48755 | .09443 |
| 45 | 8.76785 | .00343 | 9.15207 | .02014 | 9.35268 | .05074 | 9.48939 | .09523 |
| 23/32 | 8.77740 | .00359 | 9.15603 | .02051 | 9.35519 | .05133 | 9.49122 | .09604 |
| 47 | 8.78674 | .00375 | 9.15996 | .02089 | 9.35768 | .05192 | 9.49304 | .09684 |
| 3/4 | 8.79588 | .00391 | 9.16386 | .02127 | 9.36015 | .05252 | 9.49485 | .09766 |
| 49 | 8.80483 | .00407 | 9.16772 | .02165 | 9.36261 | .05312 | 9.49666 | .09847 |
| 25/32 | 8.81361 | .00424 | 9.17154 | .02203 | 9.36506 | .05372 | 9.49845 | .09929 |
| 51 | 8.82221 | .00441 | 9.17534 | .02242 | 9.36749 | .05432 | 9.50025 | .10011 |
| 13/16 | 8.83064 | .00458 | 9.17910 | .02281 | 9.36991 | .05493 | 9.50203 | .10094 |
| 53 | 8.83891 | .00476 | 9.18282 | .02321 | 9.37232 | .05554 | 9.50380 | .10177 |
| 27/32 | 8.84703 | .00494 | 9.18652 | .02361 | 9.37471 | .05616 | 9.50557 | .10260 |
| 55 | 8.85500 | .00513 | 9.19019 | .02401 | 9.37709 | .05678 | 9.50734 | .10344 |
| 7/8 | 8.86283 | .00532 | 9.19382 | .02441 | 9.37946 | .05740 | 9.50909 | .10428 |
| 57 | 8.87051 | .00551 | 9.19742 | .02482 | 9.38181 | .05803 | 9.51084 | .10512 |
| 29/32 | 8.87807 | .00570 | 9.20100 | .02523 | 9.38415 | .05865 | 9.51258 | .10596 |
| 59 | 8.88549 | .00590 | 9.20454 | .02565 | 9.38648 | .05929 | 9.51431 | .10681 |
| 15/16 | 8.89279 | .00610 | 9.20806 | .02607 | 9.38880 | .05992 | 9.51604 | .10767 |
| 61 | 8.89997 | .00631 | 9.21155 | .02649 | 9.39110 | .06056 | 9.51776 | .10852 |
| 31/32 | 8.90703 | .00652 | 9.21501 | .02692 | 9.39339 | .06120 | 9.51947 | .10938 |
| 63 | 8.91398 | .00673 | 9.21844 | .02735 | 9.39567 | .06185 | 9.52118 | .11024 |

| 32ds, etc. | 4″ | | 5″ | | 6″ | | 7″ | |
|---|---|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 9.52288 | .11111 | 9.61979 | .17361 | 9.69897 | .25000 | 9.76592 | .34028 |
| 1 | 9.52457 | .11198 | 9.62114 | .17470 | 9.70010 | .25130 | 9.76689 | .34180 |
| 1/32 | 9.52626 | .11285 | 9.62249 | .17579 | 9.70123 | .25261 | 9.76785 | .34332 |
| 3 | 9.52794 | .11373 | 9.62384 | .17688 | 9.70235 | .25392 | 9.76882 | .34485 |
| 1/16 | 9.52961 | .11461 | 9.62518 | .17798 | 9.70347 | .25524 | 9.76978 | .34638 |
| 5 | 9.53128 | .11549 | 9.62652 | .17908 | 9.70459 | .25655 | 9.77074 | .34792 |
| 3/32 | 9.53294 | .11638 | 9.62786 | .18018 | 9.70570 | .25787 | 9.77169 | .34945 |
| 7 | 9.53459 | .11727 | 9.62919 | .18129 | 9.70682 | .25920 | 9.77265 | .35099 |
| 1/8 | 9.53624 | .11816 | 9.63051 | .18240 | 9.70792 | .26053 | 9.77360 | .35254 |
| 9 | 9.53788 | .11906 | 9.63183 | .18351 | 9.70903 | .26186 | 9.77456 | .35409 |
| 5/32 | 9.53952 | .11996 | 9.63315 | .18463 | 9.71014 | .26319 | 9.77550 | .35564 |
| 1 | 9.54115 | .12086 | 9.63447 | .18575 | 9.71124 | .26453 | 9.77645 | .35719 |
| 3/16 | 9.54277 | .12177 | 9.63578 | .18688 | 9.71233 | .26587 | 9.77740 | .35875 |
| 3 | 9.54439 | .12268 | 9.63708 | .18800 | 9.71343 | .26721 | 9.77834 | .36031 |
| 7/32 | 9.54600 | .12360 | 9.63839 | .18913 | 9.71452 | .26856 | 9.77928 | .36188 |
| 5 | 9.54761 | .12451 | 9.63968 | .19027 | 9.71561 | .26991 | 9.78022 | .36345 |
| 1/4 | 9.54921 | .12543 | 9.64098 | .19141 | 9.71670 | .27127 | 9.78116 | .36502 |
| 7 | 9.55080 | .12636 | 9.64227 | .19255 | 9.71778 | .27263 | 9.78209 | .36659 |
| 9/32 | 9.55239 | .12729 | 9.64356 | .19369 | 9.71886 | .27399 | 9.78302 | .36817 |
| 9 | 9.55397 | .12822 | 9.64484 | .19484 | 9.71994 | .27535 | 9.78396 | .36975 |
| 5/16 | 9.55555 | .12915 | 9.64612 | .19599 | 9.72102 | .27672 | 9.78488 | .37134 |
| . | 9.55712 | .13009 | 9.64739 | .19715 | 9.72209 | .27809 | 9.78581 | .37293 |
| 11/32 | 9.55868 | .13103 | 9.64866 | .19830 | 9.72316 | .27947 | 9.78674 | .37452 |
| 3 | 9.56024 | .13197 | 9.64993 | .19946 | 9.72423 | .28084 | 9.78766 | .37611 |
| 3/8 | 9.56180 | .13292 | 9.65120 | .20063 | 9.72530 | .28223 | 9.78858 | .37771 |
| 5 | 9.56335 | .13387 | 9.65246 | .20180 | 9.72636 | .28361 | 9.78950 | .37931 |
| 13/32 | 9.56489 | .13483 | 9.65371 | .20297 | 9.72742 | .28500 | 9.79042 | .38092 |
| . | 9.56643 | .13578 | 9.65497 | .20414 | 9.72848 | .28639 | 9.79133 | .38253 |
| 7/16 | 9.56796 | .13675 | 9.65622 | .20532 | 9.72954 | .28779 | 9.79225 | .38414 |
| . | 9.56948 | .13771 | 9.65746 | .20650 | 9.73059 | .28919 | 9.79316 | .38576 |
| 15/32 | 9.57100 | .13868 | 9.65871 | .20769 | 9.73164 | .29059 | 9.79407 | .38738 |
| . | 9.57252 | .13965 | 9.65995 | .20888 | 9.73269 | .29199 | 9.79497 | .38900 |
| 1/2 | 9.57403 | .14062 | 9.66118 | .21007 | 9.73373 | .29340 | 9.79588 | .39062 |
| . | 9.57554 | .14160 | 9.66241 | .21126 | 9.73477 | .29482 | 9.79678 | .39225 |
| 17/32 | 9.57704 | .14258 | 9.66364 | .21246 | 9.73582 | .29623 | 9.79769 | .39389 |
| . | 9.57853 | .14357 | 9.66487 | .21367 | 9.73685 | .29765 | 9.79859 | .39552 |
| 9/16 | 9.58002 | .14456 | 9.66609 | .21487 | 9.73789 | .29907 | 9.79948 | .39716 |
| . | 9.58151 | .14555 | 9.66731 | .21608 | 9.73892 | .30050 | 9.80038 | .39881 |
| 19/32 | 9.58299 | .14655 | 9.66852 | .21729 | 9.73995 | .30193 | 9.80128 | .40045 |
| . | 9.58446 | .14754 | 9.66973 | .21851 | 9.74098 | .30336 | 9.80217 | .40210 |
| 5/8 | 9.58593 | .14855 | 9.67094 | .21973 | 9.74200 | .30480 | 9.80306 | .40375 |
| . | 9.58740 | .14955 | 9.67215 | .22095 | 9.74303 | .30624 | 9.80395 | .40541 |
| 21/32 | 9.58886 | .15056 | 9.67335 | .22217 | 9.74405 | .30768 | 9.80483 | .40707 |
| . | 9.59031 | .15157 | 9.67455 | .22340 | 9.74507 | .30912 | 9.80572 | .40873 |
| 11/16 | 9.59176 | .15259 | 9.67574 | .22464 | 9.74608 | .31057 | 9.80660 | .41040 |
| . | 9.59321 | .15360 | 9.67693 | .22587 | 9.74710 | .31203 | 9.80749 | .41207 |
| 23/32 | 9.59465 | .15463 | 9.67812 | .22711 | 9.74811 | .31348 | 9.80837 | .41374 |
| . | 9.59608 | .15565 | 9.67930 | .22835 | 9.74912 | .31494 | 9.80924 | .41542 |
| 3/4 | 9.59751 | .15668 | 9.68049 | .22960 | 9.75012 | .31641 | 9.81012 | .41710 |
| . | 9.59894 | .15772 | 9.68167 | .23085 | 9.75113 | .31787 | 9.81100 | .41878 |
| 25/32 | 9.60036 | .15875 | 9.68284 | .23210 | 9.75213 | .31934 | 9.81187 | .42047 |
| . | 9.60178 | .15979 | 9.68401 | .23336 | 9.75313 | .32082 | 9.81274 | .42216 |
| 13/16 | 9.60319 | .16083 | 9.68518 | .23462 | 9.75413 | .32229 | 9.81361 | .42386 |
| . | 9.60460 | .16188 | 9.68635 | .23588 | 9.75512 | .32377 | 9.81448 | .42555 |
| 27/32 | 9.60600 | .16293 | 9.68751 | .23715 | 9.75611 | .32526 | 9.81534 | .42725 |
| . | 9.60740 | .16398 | 9.68867 | .23842 | 9.75710 | .32674 | 9.81621 | .42896 |
| 7/8 | 9.60879 | .16504 | 9.68983 | .23969 | 9.75809 | .32823 | 9.81707 | .43066 |
| . | 9.61018 | .16610 | 9.69098 | .24097 | 9.75908 | .32973 | 9.81793 | .43237 |
| 29/32 | 9.61157 | .16716 | 9.69213 | .24225 | 9.76006 | .33122 | 9.81879 | .43409 |
| . | 9.61295 | .16823 | 9.69328 | .24353 | 9.76104 | .33272 | 9.81965 | .43581 |
| 15/16 | 9.61433 | .16930 | 9.69442 | .24482 | 9.76202 | .33423 | 9.82050 | .43753 |
| . | 9.61570 | .17037 | 9.69556 | .24611 | 9.76300 | .33574 | 9.82136 | .43925 |
| 31/32 | 9.61707 | .17145 | 9.69670 | .24740 | 9.76397 | .33725 | 9.82221 | .44098 |
| . | 9.61843 | .17253 | 9.69784 | .24870 | 9.76495 | .33876 | 9.82306 | .44271 |

| 64ths. 32ds, etc. | 8″ | | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | **9.82391** | **.44444** | **9.87506** | **.56250** | **9.92082** | **.69444** | **9.96221** | **.84028** |
| 1 | 9.82476 | .44618 | 9.87581 | .56445 | 9.92150 | .69662 | 9.96283 | .84267 |
| 1/32 | **9.82560** | **.44792** | **9.87657** | **.56641** | **9.92217** | **.69879** | **9.96344** | **.84506** |
| 3 | 9.82645 | .44967 | 9.87732 | .56837 | 9.92285 | .70097 | 9.96406 | .84745 |
| 1/16 | **9.82729** | **.45142** | **9.87807** | **.57034** | **9.92352** | **.70315** | **9.96467** | **.84985** |
| 5 | 9.82813 | .45317 | 9.87881 | .57231 | 9.92420 | .70534 | 9.96529 | .85226 |
| 3/32 | **9.82897** | **.45492** | **9.87956** | **.57428** | **9.92487** | **.70753** | **9.96590** | **.85466** |
| 7 | 9.82981 | .45668 | 9.88031 | .57625 | 9.92554 | .70972 | 9.96651 | .85707 |
| 1/8 | **9.83064** | **.45844** | **9.88105** | **.57823** | **9.92621** | **.71191** | **9.96712** | **.85948** |
| 9 | 9.83148 | .46021 | 9.88179 | .58022 | 9.92688 | .71411 | 9.96773 | .86190 |
| 5/32 | **9.83231** | **.46198** | **9.88254** | **.58220** | **9.92755** | **.71632** | **9.96834** | **.86432** |
| 11 | 9.83314 | .46375 | 9.88328 | .58419 | 9.92822 | .71853 | 9.96894 | .86674 |
| 3/16 | **9.83397** | **.46552** | **9.88402** | **.58618** | **9.92889** | **.72073** | **9.96955** | **.86917** |
| 13 | 9.83480 | .46730 | 9.88475 | .58818 | 9.92955 | .72294 | 9.97016 | .87160 |
| 7/32 | **9.83562** | **.46908** | **9.88549** | **.59018** | **9.93022** | **.72516** | **9.97076** | **.87403** |
| 15 | 9.83645 | .47087 | 9.88623 | .59218 | 9.93088 | .72738 | 9.97137 | .87647 |
| 1/4 | **9.83727** | **.47266** | **9.88696** | **.59418** | **9.93154** | **.72960** | **9.97197** | **.87891** |
| 17 | 9.83809 | .47445 | 9.88769 | .59619 | 9.93220 | .73183 | 9.97257 | .88135 |
| 9/32 | **9.83891** | **.47624** | **9.88843** | **.59821** | **9.93286** | **.73406** | **9.97318** | **.88380** |
| 19 | 9.83973 | .47804 | 9.88916 | .60022 | 9.93352 | .73629 | 9.97378 | .88625 |
| 5/16 | **9.84055** | **.47984** | **9.88989** | **.60224** | **9.93418** | **.73853** | **9.97438** | **.88870** |
| 21 | 9.84137 | .48165 | 9.89061 | .60426 | 9.93484 | .74077 | 9.97498 | .89116 |
| 11/32 | **9.84218** | **.48346** | **9.89134** | **.60629** | **9.93550** | **.74301** | **9.97558** | **.89362** |
| 23 | 9.84299 | .48527 | 9.89207 | .60832 | 9.93615 | .74525 | 9.97617 | .89608 |
| 3/8 | **9.84380** | **.48709** | **9.89279** | **.61035** | **9.93681** | **.74750** | **9.97677** | **.89855** |
| 25 | 9.84461 | .48891 | 9.89351 | .61239 | 9.93746 | .74976 | 9.97737 | .90102 |
| 13/32 | **9.84542** | **.49073** | **9.89424** | **.61443** | **9.93811** | **.75201** | **9.97796** | **.90349** |
| 27 | 9.84623 | .49256 | 9.89496 | .61647 | 9.93876 | .75427 | 9.97856 | .90597 |
| 7/16 | **9.84703** | **.49438** | **9.89568** | **.61852** | **9.93942** | **.75654** | **9.97915** | **.90845** |
| 29 | 9.84784 | .49622 | 9.89639 | .62057 | 9.94006 | .75880 | 9.97974 | .91093 |
| 15/32 | **9.84864** | **.49805** | **9.89711** | **.62262** | **9.94071** | **.76107** | **9.98033** | **.91342** |
| 31 | 9.84944 | .49989 | 9.89783 | .62468 | 9.94136 | .76335 | 9.98093 | .91591 |
| 1/2 | **9.85024** | **.50174** | **9.89854** | **.62674** | **9.94201** | **.76563** | **9.98152** | **.91840** |
| 33 | 9.85104 | .50358 | 9.89926 | .62880 | 9.94265 | .76791 | 9.98211 | .92090 |
| 17/32 | **9.85183** | **.50543** | **9.89997** | **.63087** | **9.94330** | **.77019** | **9.98270** | **.92340** |
| 35 | 9.85263 | .50729 | 9.90068 | .63294 | 9.94394 | .77248 | 9.98328 | .92591 |
| 9/16 | **9.85342** | **.50914** | **9.90139** | **.63501** | **9.94459** | **.77477** | **9.98387** | **.92841** |
| 37 | 9.85421 | .51100 | 9.90210 | .63709 | 9.94523 | .77706 | 9.98446 | .93092 |
| 19/32 | **9.85500** | **.51286** | **9.90281** | **.63917** | **9.94587** | **.77936** | **9.98504** | **.93343** |
| 39 | 9.85579 | .51473 | 9.90351 | .64125 | 9.94651 | .78166 | 9.98563 | .93596 |
| 5/8 | **9.85658** | **.51660** | **9.90422** | **.64334** | **9.94715** | **.78396** | **9.98621** | **.93848** |
| 41 | 9.85736 | .51848 | 9.90492 | .64543 | 9.94779 | .78627 | 9.98680 | .94100 |
| 21/32 | **9.85815** | **.52035** | **9.90563** | **.64752** | **9.94842** | **.78858** | **9.98738** | **.94353** |
| 43 | 9.85893 | .52223 | 9.90633 | .64962 | 9.94906 | .79090 | 9.98796 | .94606 |
| 11/16 | **9.85971** | **.52412** | **9.90703** | **.65172** | **9.94969** | **.79321** | **9.98854** | **.94859** |
| 45 | 9.86049 | .52600 | 9.90773 | .65382 | 9.95033 | .79553 | 9.98912 | .95113 |
| 23/32 | **9.86127** | **.52789** | **9.90843** | **.65593** | **9.95096** | **.79786** | **9.98970** | **.95367** |
| 47 | 9.86205 | .52979 | 9.90913 | .65804 | 9.95160 | .80019 | 9.99028 | .95622 |
| 3/4 | **9.86283** | **.53168** | **9.90982** | **.66016** | **9.95223** | **.80252** | **9.99086** | **.95877** |
| 49 | 9.86360 | .53358 | 9.91052 | .66227 | 9.95286 | .80485 | 9.99143 | .96132 |
| 25/32 | **9.86438** | **.53549** | **9.91121** | **.66439** | **9.95349** | **.80719** | **9.99201** | **.96387** |
| 51 | 9.86515 | .53740 | 9.91191 | .66652 | 9.95412 | .80953 | 9.99259 | .96643 |
| 13/16 | **9.86592** | **.53931** | **9.91260** | **.66865** | **9.95474** | **.81188** | **9.99316** | **.96899** |
| 53 | 9.86669 | .54122 | 9.91329 | .67078 | 9.95537 | .81422 | 9.99373 | .97156 |
| 27/32 | **9.86746** | **.54314** | **9.91398** | **.67291** | **9.95600** | **.81658** | **9.99431** | **.97413** |
| 55 | 9.86822 | .54506 | 9.91467 | .67505 | 9.95662 | .81893 | 9.99488 | .97670 |
| 7/8 | **9.86899** | **.54698** | **9.91536** | **.67719** | **9.95725** | **.82129** | **9.99545** | **.97928** |
| 57 | 9.86975 | .54891 | 9.91604 | .67934 | 9.95787 | .82365 | 9.99602 | .98185 |
| 29/32 | **9.87051** | **.55084** | **9.91673** | **.68148** | **9.95849** | **.82602** | **9.99659** | **.98444** |
| 59 | 9.87127 | .55278 | 9.91741 | .68364 | 9.95912 | .82838 | 9.99716 | .98702 |
| 15/16 | **9.87203** | **.55471** | **9.91810** | **.68579** | **9.95974** | **.83076** | **9.99773** | **.98961** |
| 61 | 9.87279 | .55666 | 9.91878 | .68795 | 9.96036 | .83313 | 9.99830 | .99220 |
| 31/32 | **9.87355** | **.55860** | **9.91946** | **.69011** | **9.96098** | **.83551** | **9.99887** | **.99480** |
| 63 | 9.87431 | .56055 | 9.92014 | .69228 | 9.96159 | .83789 | 9.99943 | .99740 |

| 64ths. 32ds, etc. | 12″ | | 13″ | | 14″ | | 15″ | |
|---|---|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | .00000 | 1.0000 | .03476 | 1.1736 | .06695 | 1.3611 | .09691 | 1.5625 |
| 1 | .00057 | 1.0026 | .03528 | 1.1764 | .06743 | 1.3642 | .09736 | 1.5658 |
| 1/32 | .00113 | 1.0052 | .03580 | 1.1793 | .06792 | 1.3672 | .09781 | 1.5690 |
| 3 | .00169 | 1.0078 | .03633 | 1.1821 | .06840 | 1.3702 | .09827 | 1.5723 |
| 1/16 | .00226 | 1.0104 | .03685 | 1.1849 | .06888 | 1.3733 | .09872 | 1.5755 |
| 5 | .00282 | 1.0131 | .03736 | 1.1878 | .06936 | 1.3763 | .09917 | 1.5788 |
| 3/32 | .00338 | 1.0157 | .03788 | 1.1906 | .06985 | 1.3794 | .09962 | 1.5821 |
| 7 | .00394 | 1.0183 | .03840 | 1.1934 | .07033 | 1.3825 | .10007 | 1.5854 |
| 1/8 | .00450 | 1.0209 | .03892 | 1.1963 | .07081 | 1.3855 | .10051 | 1.5887 |
| 9 | .00506 | 1.0236 | .03943 | 1.1991 | .07129 | 1.3886 | .10096 | 1.5919 |
| 5/32 | .00562 | 1.0262 | .03995 | 1.2020 | .07177 | 1.3917 | .10141 | 1.5952 |
| 11 | .00618 | 1.0289 | .04047 | 1.2048 | .07225 | 1.3947 | .10186 | 1.5985 |
| 3/16 | .00673 | 1.0315 | .04098 | 1.2077 | .07272 | 1.3978 | .10231 | 1.6018 |
| 13 | .00729 | 1.0341 | .04150 | 1.2106 | .07320 | 1.4009 | .10275 | 1.6051 |
| 7/32 | .00785 | 1.0368 | .04201 | 1.2134 | .07368 | 1.4040 | .10320 | 1.6084 |
| 15 | .00840 | 1.0394 | .04252 | 1.2163 | .07416 | 1.4071 | .10364 | 1.6117 |
| 1/4 | .00895 | 1.0421 | .04303 | 1.2192 | .07463 | 1.4102 | .10409 | 1.6150 |
| 17 | .00951 | 1.0448 | .04355 | 1.2221 | .07511 | 1.4133 | .10453 | 1.6183 |
| 9/32 | .01006 | 1.0474 | .04406 | 1.2249 | .07559 | 1.4163 | .10498 | 1.6216 |
| 19 | .01061 | 1.0501 | .04457 | 1.2278 | .07606 | 1.4194 | .10542 | 1.6250 |
| 5/16 | .01116 | 1.0528 | .04508 | 1.2307 | .07653 | 1.4226 | .10586 | 1.6283 |
| 21 | .01172 | 1.0554 | .04559 | 1.2336 | .07701 | 1.4257 | .10631 | 1.6316 |
| 11/32 | .01227 | 1.0581 | .04610 | 1.2365 | .07748 | 1.4288 | .10675 | 1.6349 |
| 23 | .01282 | 1.0608 | .04660 | 1.2394 | .07795 | 1.4319 | .10719 | 1.6383 |
| 3/8 | .01336 | 1.0635 | .04711 | 1.2423 | .07843 | 1.4350 | .10763 | 1.6416 |
| 25 | .01391 | 1.0662 | .04762 | 1.2452 | .07890 | 1.4381 | .10808 | 1.6449 |
| 13/32 | .01446 | 1.0689 | .04813 | 1.2481 | .07937 | 1.4413 | .10852 | 1.6483 |
| 27 | .01501 | 1.0715 | .04863 | 1.2510 | .07984 | 1.4444 | .10896 | 1.6516 |
| 7/16 | .01555 | 1.0742 | .04914 | 1.2539 | .08031 | 1.4475 | .10940 | 1.6550 |
| 29 | .01610 | 1.0769 | .04964 | 1.2569 | .08078 | 1.4506 | .10984 | 1.6583 |
| 15/32 | .01664 | 1.0797 | .05015 | 1.2598 | .08125 | 1.4538 | .11027 | 1.6617 |
| 31 | .01719 | 1.0824 | .05065 | 1.2627 | .08172 | 1.4569 | .11071 | 1.6650 |
| 1/2 | .01773 | 1.0851 | .05115 | 1.2656 | .08219 | 1.4601 | .11115 | 1.6684 |
| 33 | .01827 | 1.0878 | .05165 | 1.2686 | .08265 | 1.4632 | .11159 | 1.6718 |
| 17/32 | .01881 | 1.0905 | .05216 | 1.2715 | .08312 | 1.4664 | .11203 | 1.6751 |
| 35 | .01935 | 1.0932 | .05266 | 1.2744 | .08359 | 1.4695 | .11246 | 1.6785 |
| 9/16 | .01989 | 1.0959 | .05316 | 1.2774 | .08405 | 1.4727 | .11290 | 1.6819 |
| 37 | .02043 | 1.0987 | .05366 | 1.2803 | .08452 | 1.4758 | .11333 | 1.6853 |
| 19/32 | .02097 | 1.1014 | .05416 | 1.2833 | .08499 | 1.4790 | .11377 | 1.6886 |
| 39 | .02151 | 1.1041 | .05466 | 1.2862 | .08545 | 1.4822 | .11420 | 1.6920 |
| 5/8 | .02205 | 1.1069 | .05516 | 1.2892 | .08591 | 1.4854 | .11464 | 1.6954 |
| 41 | .02259 | 1.1096 | .05565 | 1.2921 | .08638 | 1.4885 | .11507 | 1.6988 |
| 21/32 | .02312 | 1.1124 | .05615 | 1.2951 | .08684 | 1.4917 | .11551 | 1.7022 |
| 43 | .02366 | 1.1151 | .05665 | 1.2981 | .08730 | 1.4949 | .11594 | 1.7056 |
| 11/16 | .02419 | 1.1179 | .05714 | 1.3010 | .08777 | 1.4981 | .11637 | 1.7090 |
| 45 | .02473 | 1.1206 | .05764 | 1.3040 | .08823 | 1.5013 | .11680 | 1.7124 |
| 23/32 | .02526 | 1.1234 | .05813 | 1.3070 | .08869 | 1.5045 | .11724 | 1.7158 |
| 47 | .02580 | 1.1261 | .05863 | 1.3100 | .08915 | 1.5077 | .11767 | 1.7192 |
| 3/4 | .02633 | 1.1289 | .05912 | 1.3129 | .08961 | 1.5109 | .11810 | 1.7227 |
| 49 | .02686 | 1.1317 | .05961 | 1.3159 | .09007 | 1.5141 | .11853 | 1.7261 |
| 25/32 | .02739 | 1.1344 | .06011 | 1.3189 | .09053 | 1.5173 | .11896 | 1.7295 |
| 51 | .02792 | 1.1372 | .06060 | 1.3219 | .09099 | 1.5205 | .11939 | 1.7329 |
| 13/16 | .02845 | 1.1400 | .06109 | 1.3249 | .09145 | 1.5237 | .11982 | 1.7364 |
| 53 | .02898 | 1.1428 | .06158 | 1.3279 | .09191 | 1.5269 | .12025 | 1.7398 |
| 27/32 | .02951 | 1.1456 | .06207 | 1.3309 | .09236 | 1.5301 | .12068 | 1.7432 |
| 55 | .03004 | 1.1484 | .06256 | 1.3339 | .09282 | 1.5333 | .12110 | 1.7467 |
| 7/8 | .03057 | 1.1512 | .06305 | 1.3369 | .09328 | 1.5366 | .12153 | 1.7501 |
| 57 | .03109 | 1.1539 | .06354 | 1.3399 | .09373 | 1.5398 | .12196 | 1.7536 |
| 29/32 | .03162 | 1.1567 | .06403 | 1.3429 | .09419 | 1.5430 | .12239 | 1.7570 |
| 59 | .03214 | 1.1595 | .06452 | 1.3460 | .09464 | 1.5463 | .12281 | 1.7605 |
| 15/16 | .03267 | 1.1624 | .06500 | 1.3490 | .09510 | 1.5495 | .12324 | 1.7639 |
| 61 | .03319 | 1.1652 | .06549 | 1.3520 | .09555 | 1.5527 | .12366 | 1.7674 |
| 31/32 | .03372 | 1.1680 | .06598 | 1.3550 | .09600 | 1.5560 | .12409 | 1.7708 |
| 63 | .03424 | 1.1708 | .06646 | 1.3581 | .09646 | 1.5592 | .12451 | 1.7743 |

# LOGARITHMS AND SQUARES

By Intervals of

# ONE-SIXTY-FOURTH OF AN INCH

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From experience it is known that by far the greater majority of problems for which this book is used deal with comparatively small dimensions. Thus it has invariably been found that the first portion of the main tables wears out much quicker than the other parts of the book, and for this reason the first portion has been printed on a heavier bond paper than the remainder of the volume; but, in addition, since in dealing with small dimensions greater than ordinary accuracy is sometimes required, the foregoing table giving logarithms and squares by intervals of 1/64 inch is provided. Not only can results correct to 1/64 inch be derived by means of this table, but its special arrangement giving the 64ths in Roman and the 32ds in bold-face type enables the user to determine at a glance the nearest thirty-second of an inch.

It might be well to mention here that the charts containing Graphic Solutions of Right Triangles, given elsewhere in this book, provide another means of solving many of the problems dealing with small dimensions. These charts were drawn with great precision and are absolutely dependable. Inasmuch as by their means results can be obtained almost at a glance, they have proved to be great time savers and are strongly recommended for use where reliable and rapid results are desired.

# PARALLEL TABLES

OF

# LOGARITHMS AND SQUARES

Of feet, inches, and fractions of inches, varying by one thirty-second of an inch from zero to fifty feet, and by one-sixteenth of an inch from fifty to one hundred feet.

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | ——— | 0.000000 | 8.92082 | 0.006944 | 9.22185 | 0.027778 |
| 1/32 | 7.41567 | 0.000007 | 8.93418 | 0.007385 | 9.22858 | 0.028653 |
| 1/16 | 7.71670 | 0.000027 | 8.94715 | 0.007840 | 9.23521 | 0.029541 |
| 3/32 | 7.89279 | 0.000061 | 8.95974 | 0.008308 | 9.24174 | 0.030443 |
| 1/8 | 8.01773 | 0.000109 | 8.97197 | 0.008789 | 9.24818 | 0.031359 |
| 5/32 | 8.11464 | 0.000170 | 8.98387 | 0.009284 | 9.25452 | 0.032288 |
| 3/16 | 8.19382 | 0.000244 | 8.99545 | 0.009793 | 9.26077 | 0.033230 |
| 7/32 | 8.26077 | 0.000332 | 9.00673 | 0.010315 | 9.26693 | 0.034186 |
| 1/4 | 8.31876 | 0.000434 | 9.01773 | 0.010851 | 9.27300 | 0.035156 |
| 9/32 | 8.36991 | 0.000549 | 9.02845 | 0.011400 | 9.27899 | 0.036140 |
| 5/16 | 8.41567 | 0.000678 | 9.03892 | 0.011963 | 9.28490 | 0.037137 |
| 11/32 | 8.45706 | 0.000821 | 9.04914 | 0.012539 | 9.29073 | 0.038147 |
| 3/8 | 8.49485 | 0.000977 | 9.05912 | 0.013129 | 9.29648 | 0.039171 |
| 13/32 | 8.52961 | 0.001146 | 9.06888 | 0.013733 | 9.30216 | 0.040209 |
| 7/16 | 8.56180 | 0.001329 | 9.07843 | 0.014350 | 9.30776 | 0.041260 |
| 15/32 | 8.59176 | 0.001526 | 9.08777 | 0.014981 | 9.31330 | 0.042324 |
| 1/2 | 8.61979 | 0.001736 | 9.09691 | 0.015625 | 9.31876 | 0.043403 |
| 17/32 | 8.64612 | 0.001960 | 9.10586 | 0.016283 | 9.32415 | 0.044495 |
| 9/16 | 8.67094 | 0.002197 | 9.11464 | 0.016954 | 9.32948 | 0.045600 |
| 19/32 | 8.69442 | 0.002448 | 9.12324 | 0.017639 | 9.33475 | 0.046719 |
| 5/8 | 8.71670 | 0.002713 | 9.13167 | 0.018338 | 9.33995 | 0.047852 |
| 21/32 | 8.73789 | 0.002991 | 9.13994 | 0.019050 | 9.34509 | 0.048998 |
| 11/16 | 8.75809 | 0.003282 | 9.14806 | 0.019775 | 9.35017 | 0.050157 |
| 23/32 | 8.77740 | 0.003588 | 9.15603 | 0.020515 | 9.35519 | 0.051331 |
| 3/4 | 8.79588 | 0.003906 | 9.16386 | 0.021267 | 9.36015 | 0.052517 |
| 25/32 | 8.81361 | 0.004239 | 9.17154 | 0.022034 | 9.36506 | 0.053718 |
| 13/16 | 8.83064 | 0.004584 | 9.17910 | 0.022814 | 9.36991 | 0.054932 |
| 27/32 | 8.84703 | 0.004944 | 9.18652 | 0.023607 | 9.37471 | 0.056159 |
| 7/8 | 8.86283 | 0.005317 | 9.19382 | 0.024414 | 9.37946 | 0.057400 |
| 29/32 | 8.87807 | 0.005703 | 9.20100 | 0.025235 | 9.38415 | 0.058655 |
| 15/16 | 8.89279 | 0.006104 | 9.20806 | 0.026069 | 9.38880 | 0.059923 |
| 31/32 | 8.90703 | 0.006517 | 9.21501 | 0.026917 | 9.39339 | 0.061205 |
| 1 | 8.92082 | 0.006944 | 9.22185 | 0.027778 | 9.39794 | 0.062500 |

| Fractions of an inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 9.39794 | 0.062500 | 9.52288 | 0.111111 | 9.61979 | 0.173611 |
| 1/32 | 9.40244 | 0.063809 | 9.52626 | 0.112854 | 9.62249 | 0.175788 |
| 1/16 | 9.40689 | 0.065131 | 9.52961 | 0.114610 | 9.62518 | 0.177979 |
| 3/32 | 9.41130 | 0.066467 | 9.53294 | 0.116380 | 9.62786 | 0.180183 |
| 1/8 | 9.41567 | 0.067817 | 9.53624 | 0.118164 | 9.63051 | 0.182400 |
| 5/32 | 9.41999 | 0.069180 | 9.53952 | 0.119961 | 9.63315 | 0.184631 |
| 3/16 | 9.42427 | 0.070557 | 9.54277 | 0.121772 | 9.63578 | 0.186876 |
| 7/32 | 9.42851 | 0.071947 | 9.54600 | 0.123596 | 9.63839 | 0.189134 |
| 1/4 | 9.43270 | 0.073351 | 9.54921 | 0.125434 | 9.64098 | 0.191406 |
| 9/32 | 9.43686 | 0.074768 | 9.55239 | 0.127285 | 9.64356 | 0.193692 |
| 5/16 | 9.44097 | 0.076199 | 9.55555 | 0.129150 | 9.64612 | 0.195991 |
| 11/32 | 9.44505 | 0.077644 | 9.55868 | 0.131029 | 9.64866 | 0.198303 |
| 3/8 | 9.44909 | 0.079102 | 9.56180 | 0.132921 | 9.65120 | 0.200629 |
| 13/32 | 9.45310 | 0.080573 | 9.56489 | 0.134827 | 9.65371 | 0.202969 |
| 7/16 | 9.45706 | 0.082058 | 9.56796 | 0.136746 | 9.65622 | 0.205322 |
| 15/32 | 9.46099 | 0.083557 | 9.57100 | 0.138679 | 9.65871 | 0.207689 |
| 1/2 | 9.46489 | 0.085069 | 9.57403 | 0.140625 | 9.66118 | 0.210069 |
| 17/32 | 9.46875 | 0.086595 | 9.57704 | 0.142585 | 9.66364 | 0.212463 |
| 9/16 | 9.47257 | 0.088135 | 9.58002 | 0.144558 | 9.66609 | 0.214871 |
| 19/32 | 9.47637 | 0.089688 | 9.58299 | 0.146545 | 9.66852 | 0.217292 |
| 5/8 | 9.48013 | 0.091254 | 9.58593 | 0.148546 | 9.67094 | 0.219727 |
| 21/32 | 9.48385 | 0.092834 | 9.58886 | 0.150560 | 9.67335 | 0.222175 |
| 11/16 | 9.48755 | 0.094428 | 9.59176 | 0.152588 | 9.67574 | 0.224637 |
| 23/32 | 9.49122 | 0.096035 | 9.59465 | 0.154629 | 9.67812 | 0.227112 |
| 3/4 | 9.49485 | 0.097656 | 9.59751 | 0.156684 | 9.68049 | 0.229601 |
| 25/32 | 9.49845 | 0.099291 | 9.60036 | 0.158752 | 9.68284 | 0.232103 |
| 13/16 | 9.50203 | 0.100939 | 9.60319 | 0.160834 | 9.68518 | 0.234619 |
| 27/32 | 9.50557 | 0.102600 | 9.60600 | 0.162930 | 9.68751 | 0.237149 |
| 7/8 | 9.50909 | 0.104275 | 9.60879 | 0.165039 | 9.68983 | 0.239692 |
| 29/32 | 9.51258 | 0.105964 | 9.61157 | 0.167162 | 9.69213 | 0.242249 |
| 15/16 | 9.51604 | 0.107666 | 9.61433 | 0.169298 | 9.69442 | 0.244819 |
| 31/32 | 9.51947 | 0.109382 | 9.61707 | 0.171448 | 9.69670 | 0.247403 |
| 1 | 9.52288 | 0.111111 | 9.61979 | 0.173611 | 9.69897 | 0.250000 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 9.69897 | 0.250000 | 9.76592 | 0.340278 | 9.82391 | 0.444444 |
| 1/32 | 9.70123 | 0.252611 | 9.76785 | 0.343323 | 9.82560 | 0.447923 |
| 1/16 | 9.70347 | 0.255235 | 9.76978 | 0.346381 | 9.82729 | 0.451416 |
| 3/32 | 9.70570 | 0.257874 | 9.77169 | 0.349453 | 9 82897 | 0.454922 |
| 1/8 | 9.70792 | 0.260525 | 9.77360 | 0.352539 | 9.83064 | 0.458442 |
| 5/32 | 9.71014 | 0.263190 | 9.77550 | 0.355638 | 9.83231 | 0.461975 |
| 3/16 | 9.71233 | 0.265869 | 9.77740 | 0.358751 | 9.83397 | 0.465522 |
| 7/32 | 9.71452 | 0.268561 | 9.77928 | 0.361877 | 9.83562 | 0.469082 |
| 1/4 | 9.71670 | 0.271267 | 9.78116 | 0.365017 | 9.83727 | 0.472656 |
| 9/32 | 9.71886 | 0.273987 | 9.78302 | 0.368171 | 9.83891 | 0.476244 |
| 5/16 | 9.72102 | 0.276720 | 9.78488 | 0.371338 | 9.84055 | 0.479845 |
| 11/32 | 9.72316 | 0.279466 | 9.78674 | 0.374519 | 9.84218 | 0.483459 |
| 3/8 | 9.72530 | 0.282227 | 9.78858 | 0.377713 | 9.84380 | 0.487088 |
| 13/32 | 9.72742 | 0.285000 | 9.79042 | 0.380920 | 9.84542 | 0.490729 |
| 7/16 | 9.72954 | 0.287788 | 9.79225 | 0.384142 | 9.84703 | 0.494385 |
| 15/32 | 9.73164 | 0.290588 | 9.79407 | 0.387377 | 9.84864 | 0.498054 |
| 1/2 | 9.73373 | 0.293403 | 9.79588 | 0.390625 | 9.85024 | 0.501736 |
| 17/32 | 9.73582 | 0.296231 | 9.79769 | 0.393887 | 9.85183 | 0.505432 |
| 9/16 | 9.73789 | 0.299072 | 9.79948 | 0.397163 | 9.85342 | 0.509142 |
| 19/32 | 9.73995 | 0.301927 | 9.80128 | 0.400452 | 9.85500 | 0.512865 |
| 5/8 | 9.74200 | 0.304796 | 9.80306 | 0.403754 | 9.85658 | 0.516602 |
| 21/32 | 9.74405 | 0.307678 | 9.80483 | 0.407071 | 9.85815 | 0.520352 |
| 11/16 | 9.74608 | 0.310574 | 9.80660 | 0.410400 | 9.85971 | 0.524116 |
| 23/32 | 9.74811 | 0.313483 | 9.80837 | 0.413744 | 9.86127 | 0.527893 |
| 3/4 | 9.75012 | 0.316406 | 9.81012 | 0.417101 | 9.86283 | 0.531684 |
| 25/32 | 9.75213 | 0.319343 | 9.81187 | 0.420471 | 9.86438 | 0.535489 |
| 13/16 | 9.75413 | 0.322293 | 9.81361 | 0.423855 | 9.86592 | 0.539307 |
| 27/32 | 9.75611 | 0.325256 | 9.81534 | 0.427253 | 9.86746 | 0.543138 |
| 7/8 | 9.75809 | 0.328234 | 9.81707 | 0.430664 | 9.86899 | 0.546984 |
| 29/32 | 9.76006 | 0.331224 | 9.81879 | 0.434089 | 9.87051 | 0.550842 |
| 15/16 | 9.76202 | 0.334229 | 9.82050 | 0.437527 | 9.87203 | 0.554715 |
| 31/32 | 9.76397 | 0.337246 | 9.82221 | 0.440979 | 9.87355 | 0.558601 |
| 1 | 9.76592 | 0.340278 | 9.82391 | 0.444444 | 9.87506 | 0.562500 |

| Fractions of an Inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 9.87506 | 0.562500 | 9.92082 | 0.694444 | 9.96221 | 0.840278 |
| 1/32 | 9.87657 | 0.566413 | 9.92217 | 0.698792 | 9.96344 | 0.845059 |
| 1/16 | 9.87807 | 0.570340 | 9.92352 | 0.703152 | 9.96467 | 0.849854 |
| 3/32 | 9.87956 | 0.574280 | 9.92487 | 0.707526 | 9.96590 | 0.854662 |
| 1/8 | 9.88105 | 0.578234 | 9.92621 | 0.711914 | 9.96712 | 0.859484 |
| 5/32 | 9.88254 | 0.582201 | 9.92755 | 0.716315 | 9.96834 | 0.864319 |
| 3/16 | 9.88402 | 0.586182 | 9.92889 | 0.720730 | 9.96955 | 0.869168 |
| 7/32 | 9.88549 | 0.590176 | 9.93022 | 0.725159 | 9.97076 | 0.874030 |
| 1/4 | 9.88696 | 0.594184 | 9.93154 | 0.729601 | 9.97197 | 0.878906 |
| 9/32 | 9.88843 | 0.598206 | 9.93286 | 0.734056 | 9.97318 | 0.883796 |
| 5/16 | 9.88989 | 0.602241 | 9.93418 | 0.738525 | 9.97438 | 0.888699 |
| 11/32 | 9.89134 | 0.606289 | 9.93550 | 0.743008 | 9.97558 | 0.893616 |
| 3/8 | 9.89279 | 0.610352 | 9.93681 | 0.747504 | 9.97677 | 0.898546 |
| 13/32 | 9.89424 | 0.614427 | 9.93811 | 0.752014 | 9.97796 | 0.903490 |
| 7/16 | 9.89568 | 0.618517 | 9.93942 | 0.756538 | 9.97915 | 0.908447 |
| 15/32 | 9.89711 | 0.622620 | 9.94071 | 0.761074 | 9.98033 | 0.913418 |
| 1/2 | 9.89854 | 0.626736 | 9.94201 | 0.765625 | 9.98152 | 0.918403 |
| 17/32 | 9.89997 | 0.630866 | 9.94330 | 0.770189 | 9.98270 | 0.923401 |
| 9/16 | 9.90139 | 0.635010 | 9.94459 | 0.774767 | 9.98387 | 0.928413 |
| 19/32 | 9.90281 | 0.639167 | 9.94587 | 0.779358 | 9.98504 | 0.933438 |
| 5/8 | 9.90422 | 0.643338 | 9.94715 | 0.783963 | 9.98621 | 0.938477 |
| 21/32 | 9.90563 | 0.647522 | 9.94842 | 0.788581 | 9.98738 | 0.943529 |
| 11/16 | 9.90703 | 0.651720 | 9.94969 | 0.793213 | 9.98854 | 0.948595 |
| 23/32 | 9.90843 | 0.655931 | 9.95096 | 0.797858 | 9.98970 | 0.953674 |
| 3/4 | 9.90982 | 0.660156 | 9.95223 | 0.802517 | 9.99086 | 0.958767 |
| 25/32 | 9.91121 | 0.664395 | 9.95349 | 0.807190 | 9.99201 | 0.963874 |
| 13/16 | 9.91260 | 0.668647 | 9.95474 | 0.811876 | 9.99316 | 0.968994 |
| 27/32 | 9.91398 | 0.672913 | 9.95600 | 0.816576 | 9.99431 | 0.974128 |
| 7/8 | 9.91536 | 0.677192 | 9.95725 | 0.821289 | 9.99545 | 0.979275 |
| 29/32 | 9.91673 | 0.681485 | 9.95849 | 0.826016 | 9.99659 | 0.984436 |
| 15/16 | 9.91810 | 0.685791 | 9.95974 | 0.830756 | 9.99773 | 0.989610 |
| 31/32 | 9.91946 | 0.690111 | 9.96098 | 0.835510 | 9.99887 | 0.994798 |
| 1 | 9.92082 | 0.694444 | 9.96221 | 0.840278 | 0.00000 | 1.000000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.00000 | 1.0000 | 0.03476 | 1.1736 | 0.06695 | 1.3611 |
| 1/32 | 0.00113 | 1.0052 | 0.03580 | 1.1793 | 0.06792 | 1.3672 |
| 1/16 | 0.00226 | 1.0104 | 0.03685 | 1.1849 | 0.06888 | 1.3733 |
| 3/32 | 0.00338 | 1.0157 | 0.03788 | 1.1906 | 0.06985 | 1.3794 |
| 1/8 | 0.00450 | 1.0209 | 0.03892 | 1.1963 | 0.07081 | 1.3855 |
| 5/32 | 0.00562 | 1.0262 | 0.03995 | 1.2020 | 0.07177 | 1.3917 |
| 3/16 | 0.00673 | 1.0315 | 0.04098 | 1.2077 | 0.07272 | 1.3978 |
| 7/32 | 0.00785 | 1.0368 | 0.04201 | 1.2134 | 0.07368 | 1.4040 |
| 1/4 | 0.00895 | 1.0421 | 0.04303 | 1.2192 | 0.07463 | 1.4102 |
| 9/32 | 0.01006 | 1.0474 | 0.04406 | 1.2249 | 0.07558 | 1.4163 |
| 5/16 | 0.01116 | 1.0528 | 0.04508 | 1.2307 | 0.07653 | 1.4226 |
| 11/32 | 0.01227 | 1.0581 | 0.04610 | 1.2365 | 0.07748 | 1.4288 |
| 3/8 | 0.01336 | 1.0635 | 0.04711 | 1.2423 | 0.07843 | 1.4350 |
| 13/32 | 0.01446 | 1.0689 | 0.04813 | 1.2481 | 0.07937 | 1.4413 |
| 7/16 | 0.01555 | 1.0742 | 0.04914 | 1.2539 | 0.08031 | 1.4475 |
| 15/32 | 0.01664 | 1.0797 | 0.05015 | 1.2598 | 0.08125 | 1.4538 |
| 1/2 | 0.01773 | 1.0851 | 0.05115 | 1.2656 | 0.08219 | 1.4601 |
| 17/32 | 0.01881 | 1.0905 | 0.05216 | 1.2715 | 0.08312 | 1.4664 |
| 9/16 | 0.01989 | 1.0959 | 0.05316 | 1.2774 | 0.08405 | 1.4727 |
| 19/32 | 0.02097 | 1.1014 | 0.05416 | 1.2833 | 0.08499 | 1.4790 |
| 5/8 | 0.02205 | 1.1069 | 0.05516 | 1.2892 | 0.08591 | 1.4854 |
| 21/32 | 0.02312 | 1.1124 | 0.05615 | 1.2951 | 0.08684 | 1.4917 |
| 11/16 | 0.02419 | 1.1179 | 0.05714 | 1.3010 | 0.08777 | 1.4981 |
| 23/32 | 0.02526 | 1.1234 | 0.05813 | 1.3070 | 0.08869 | 1.5045 |
| 3/4 | 0.02633 | 1.1289 | 0.05912 | 1.3129 | 0.08961 | 1.5109 |
| 25/32 | 0.02739 | 1.1344 | 0.06011 | 1.3189 | 0.09053 | 1.5173 |
| 13/16 | 0.02845 | 1.1400 | 0.06109 | 1.3249 | 0.09145 | 1.5237 |
| 27/32 | 0.02951 | 1.1456 | 0.06207 | 1.3309 | 0.09236 | 1.5301 |
| 7/8 | 0.03057 | 1.1511 | 0.06305 | 1.3369 | 0.09328 | 1.5366 |
| 29/32 | 0.03162 | 1.1567 | 0.06403 | 1.3429 | 0.09419 | 1.5430 |
| 15/16 | 0.03267 | 1.1624 | 0.06500 | 1.3490 | 0.09510 | 1.5495 |
| 31/32 | 0.03372 | 1.1680 | 0.06598 | 1.3550 | 0.09600 | 1.5560 |
| 1 | 0.03476 | 1.1736 | 0.06695 | 1.3611 | 0.09691 | 1.5625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.09691 | 1.5625 | 0.12494 | 1.7778 | 0.15127 | 2.0069 |
| 1/32 | 0.09781 | 1.5690 | 0.12579 | 1.7847 | 0.15207 | 2.0143 |
| 1/16 | 0.09872 | 1.5755 | 0.12663 | 1.7917 | 0.15286 | 2.0217 |
| 3/32 | 0.09962 | 1.5821 | 0.12748 | 1.7987 | 0.15366 | 2.0291 |
| 1/8 | 0.10051 | 1.5887 | 0.12832 | 1.8057 | 0.15445 | 2.0366 |
| 5/32 | 0.10141 | 1.5952 | 0.12916 | 1.8127 | 0.15524 | 2.0440 |
| 3/16 | 0.10231 | 1.6018 | 0.13000 | 1.8197 | 0.15603 | 2.0515 |
| 7/32 | 0.10320 | 1.6084 | 0.13084 | 1.8267 | 0.15682 | 2.0589 |
| 1/4 | 0.10409 | 1.6150 | 0.13167 | 1.8338 | 0.15761 | 2.0664 |
| 9/32 | 0.10498 | 1.6216 | 0.13251 | 1.8408 | 0.15839 | 2.0739 |
| 5/16 | 0.10586 | 1.6283 | 0.13334 | 1.8479 | 0.15918 | 2.0814 |
| 11/32 | 0.10675 | 1.6349 | 0.13417 | 1.8550 | 0.15996 | 2.0889 |
| 3/8 | 0.10763 | 1.6416 | 0.13500 | 1.8621 | 0.16074 | 2.0965 |
| 13/32 | 0.10852 | 1.6483 | 0.13583 | 1.8692 | 0.16152 | 2.1040 |
| 7/16 | 0.10940 | 1.6550 | 0.13665 | 1.8763 | 0.16230 | 2.1116 |
| 15/32 | 0.11027 | 1.6617 | 0.13748 | 1.8835 | 0.16308 | 2.1191 |
| 1/2 | 0.11115 | 1.6684 | 0.13830 | 1.8906 | 0.16386 | 2.1267 |
| 17/32 | 0.11203 | 1.6751 | 0.13912 | 1.8978 | 0.16463 | 2.1343 |
| 9/16 | 0.11290 | 1.6819 | 0.13994 | 1.9050 | 0.16541 | 2.1420 |
| 19/32 | 0.11377 | 1.6886 | 0.14076 | 1.9122 | 0.16618 | 2.1496 |
| 5/8 | 0.11464 | 1.6954 | 0.14158 | 1.9194 | 0.16695 | 2.1572 |
| 21/32 | 0.11551 | 1.7022 | 0.14240 | 1.9266 | 0.16772 | 2.1649 |
| 11/16 | 0.11637 | 1.7090 | 0.14321 | 1.9338 | 0.16849 | 2.1726 |
| 23/32 | 0.11724 | 1.7158 | 0.14402 | 1.9411 | 0.16925 | 2.1802 |
| 3/4 | 0.11810 | 1.7227 | 0.14483 | 1.9484 | 0.17002 | 2.1879 |
| 25/32 | 0.11896 | 1.7295 | 0.14564 | 1.9556 | 0.17078 | 2.1956 |
| 13/16 | 0.11982 | 1.7364 | 0.14645 | 1.9629 | 0.17154 | 2.2034 |
| 27/32 | 0.12068 | 1.7432 | 0.14726 | 1.9702 | 0.17230 | 2.2111 |
| 7/8 | 0.12153 | 1.7501 | 0.14806 | 1.9775 | 0.17306 | 2.2189 |
| 29/32 | 0.12239 | 1.7570 | 0.14887 | 1.9849 | 0.17382 | 2.2266 |
| 15/16 | 0.12324 | 1.7639 | 0.14967 | 1.9922 | 0.17458 | 2.2344 |
| 31/32 | 0.12409 | 1.7708 | 0.15047 | 1.9996 | 0.17534 | 2.2422 |
| 1 | 0.12494 | 1.7778 | 0.15127 | 2.0069 | 0.17609 | 2.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.17609 | 2.2500 | 0.19957 | 2.5069 | 0.22185 | 2.7778 |
| 1/32 | 0.17684 | 2.2578 | 0.20029 | 2.5152 | 0.22253 | 2.7865 |
| 1/16 | 0.17760 | 2.2657 | 0.20100 | 2.5235 | 0.22320 | 2.7952 |
| 3/32 | 0.17835 | 2.2735 | 0.20171 | 2.5317 | 0.22388 | 2.8039 |
| 1/8 | 0.17910 | 2.2814 | 0.20242 | 2.5400 | 0.22455 | 2.8126 |
| 5/32 | 0.17984 | 2.2892 | 0.20313 | 2.5483 | 0.22523 | 2.8214 |
| 3/16 | 0.18059 | 2.2971 | 0.20384 | 2.5567 | 0.22590 | 2.8301 |
| 7/32 | 0.18134 | 2.3050 | 0.20454 | 2.5650 | 0.22657 | 2.8389 |
| 1/4 | 0.18208 | 2.3129 | 0.20525 | 2.5734 | 0.22724 | 2.8477 |
| 9/32 | 0.18282 | 2.3209 | 0.20595 | 2.5817 | 0.22791 | 2.8565 |
| 5/16 | 0.18357 | 2.3288 | 0.20666 | 2.5901 | 0.22858 | 2.8653 |
| 11/32 | 0.18431 | 2.3368 | 0.20736 | 2.5985 | 0.22925 | 2.8741 |
| 3/8 | 0.18505 | 2.3447 | 0.20806 | 2.6069 | 0.22992 | 2.8829 |
| 13/32 | 0.18578 | 2.3527 | 0.20876 | 2.6153 | 0.23058 | 2.8918 |
| 7/16 | 0.18652 | 2.3607 | 0.20946 | 2.6237 | 0.23125 | 2.9006 |
| 15/32 | 0.18726 | 2.3687 | 0.21016 | 2.6322 | 0.23191 | 2.9095 |
| 1/2 | 0.18799 | 2.3767 | 0.21085 | 2.6406 | 0.23257 | 2.9184 |
| 17/32 | 0.18872 | 2.3848 | 0.21155 | 2.6491 | 0.23323 | 2.9273 |
| 9/16 | 0.18946 | 2.3928 | 0.21224 | 2.6576 | 0.23389 | 2.9362 |
| 19/32 | 0.19019 | 2.4009 | 0.21294 | 2.6661 | 0.23455 | 2.9452 |
| 5/8 | 0.19092 | 2.4090 | 0.21363 | 2.6746 | 0.23521 | 2.9541 |
| 21/32 | 0.19164 | 2.4171 | 0.21432 | 2.6831 | 0.23587 | 2.9631 |
| 11/16 | 0.19237 | 2.4252 | 0.21501 | 2.6917 | 0.23653 | 2.9720 |
| 23/32 | 0.19310 | 2.4333 | 0.21570 | 2.7002 | 0.23718 | 2.9810 |
| 3/4 | 0.19382 | 2.4414 | 0.21639 | 2.7088 | 0.23784 | 2.9900 |
| 25/32 | 0.19454 | 2.4496 | 0.21707 | 2.7173 | 0.23849 | 2.9990 |
| 13/16 | 0.19527 | 2.4577 | 0.21776 | 2.7259 | 0.23914 | 3.0081 |
| 27/32 | 0.19599 | 2.4659 | 0.21844 | 2.7345 | 0.23979 | 3.0171 |
| 7/8 | 0.19671 | 2.4741 | 0.21913 | 2.7432 | 0.24045 | 3.0262 |
| 29/32 | 0.19742 | 2.4823 | 0.21981 | 2.7518 | 0.24109 | 3.0352 |
| 15/16 | 0.19814 | 2.4905 | 0.22049 | 2.7604 | 0.24174 | 3.0443 |
| 31/32 | 0.19886 | 2.4987 | 0.22117 | 2.7691 | 0.24239 | 3.0534 |
| 1 | 0.19957 | 2.5069 | 0.22185 | 2.7778 | 0.24304 | 3.0625 |

| Fractions of an inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.24304 | 3.0625 | 0.26324 | 3.3611 | 0.28255 | 3.6736 |
| 1/32 | 0.24368 | 3.0716 | 0.26386 | 3.3707 | 0.28314 | 3.6836 |
| 1/16 | 0.24433 | 3.0808 | 0.26447 | 3.3802 | 0.28373 | 3.6936 |
| 3/32 | 0.24497 | 3.0899 | 0.26509 | 3.3898 | 0.28431 | 3.7036 |
| 1/8 | 0.24562 | 3.0991 | 0.26570 | 3.3994 | 0.28490 | 3.7137 |
| 5/32 | 0.24626 | 3.1082 | 0.26632 | 3.4090 | 0.28549 | 3.7237 |
| 3/16 | 0.24690 | 3.1174 | 0.26693 | 3.4186 | 0.28607 | 3.7338 |
| 7/32 | 0.24754 | 3.1266 | 0.26754 | 3.4283 | 0.28666 | 3.7438 |
| 1/4 | 0.24818 | 3.1359 | 0.26815 | 3.4379 | 0.28724 | 3.7539 |
| 9/32 | 0.24882 | 3.1451 | 0.26876 | 3.4476 | 0.28783 | 3.7640 |
| 5/16 | 0.24945 | 3.1543 | 0.26937 | 3.4573 | 0.28841 | 3.7741 |
| 11/32 | 0.25009 | 3.1636 | 0.26997 | 3.4670 | 0.28899 | 3.7842 |
| 3/8 | 0.25072 | 3.1729 | 0.27058 | 3.4767 | 0.28957 | 3.7944 |
| 13/32 | 0.25136 | 3.1821 | 0.27119 | 3.4864 | 0.29015 | 3.8045 |
| 7/16 | 0.25199 | 3.1914 | 0.27179 | 3.4961 | 0.29073 | 3.8147 |
| 15/32 | 0.25263 | 3.2007 | 0.27240 | 3.5059 | 0.29131 | 3.8249 |
| 1/2 | 0.25326 | 3.2101 | 0.27300 | 3.5156 | 0.29189 | 3.8351 |
| 17/32 | 0.25389 | 3.2194 | 0.27360 | 3.5254 | 0.29246 | 3.8453 |
| 9/16 | 0.25452 | 3.2288 | 0.27421 | 3.5352 | 0.29304 | 3.8555 |
| 19/32 | 0.25515 | 3.2381 | 0.27481 | 3.5450 | 0.29362 | 3.8657 |
| 5/8 | 0.25577 | 3.2475 | 0.27541 | 3.5548 | 0.29419 | 3.8760 |
| 21/32 | 0.25640 | 3.2569 | 0.27601 | 3.5646 | 0.29476 | 3.8862 |
| 11/16 | 0.25703 | 3.2663 | 0.27661 | 3.5745 | 0.29534 | 3.8965 |
| 23/32 | 0.25765 | 3.2757 | 0.27720 | 3.5843 | 0.29591 | 3.9068 |
| 3/4 | 0.25828 | 3.2852 | 0.27780 | 3.5942 | 0.29648 | 3.9171 |
| 25/32 | 0.25890 | 3.2946 | 0.27840 | 3.6041 | 0.29705 | 3.9274 |
| 13/16 | 0.25952 | 3.3041 | 0.27899 | 3.6140 | 0.29762 | 3.9377 |
| 27/32 | 0.26015 | 3.3135 | 0.27959 | 3.6239 | 0.29819 | 3.9481 |
| 7/8 | 0.26077 | 3.3230 | 0.28018 | 3.6338 | 0.29876 | 3.9584 |
| 29/32 | 0.26139 | 3.3325 | 0.28077 | 3.6437 | 0.29933 | 3.9688 |
| 15/16 | 0.26201 | 3.3420 | 0.28136 | 3.6537 | 0.29990 | 3.9792 |
| 31/32 | 0.26262 | 3.3516 | 0.28196 | 3.6636 | 0.30046 | 3.9896 |
| 1 | 0.26324 | 3.3611 | 0.28255 | 3.6736 | 0.30103 | 4.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.30103 | 4.0000 | 0.31876 | 4.3403 | 0.33579 | 4.6944 |
| 1/32 | 0.30160 | 4.0104 | 0.31930 | 4.3511 | 0.33631 | 4.7057 |
| 1/16 | 0.30216 | 4.0209 | 0.31984 | 4.3620 | 0.33683 | 4.7170 |
| 3/32 | 0.30272 | 4.0313 | 0.32038 | 4.3729 | 0.33736 | 4.7284 |
| 1/8 | 0.30329 | 4.0418 | 0.32092 | 4.3838 | 0.33788 | 4.7397 |
| 5/32 | 0.30385 | 4.0523 | 0.32146 | 4.3947 | 0.33839 | 4.7510 |
| 3/16 | 0.30441 | 4.0627 | 0.32200 | 4.4056 | 0.33891 | 4.7624 |
| 7/32 | 0.30497 | 4.0732 | 0.32254 | 4.4166 | 0.33943 | 4.7738 |
| 1/4 | 0.30553 | 4.0838 | 0.32308 | 4.4275 | 0.33995 | 4.7852 |
| 9/32 | 0.30609 | 4.0943 | 0.32362 | 4.4385 | 0.34046 | 4.7966 |
| 5/16 | 0.30665 | 4.1048 | 0.32415 | 4.4495 | 0.34098 | 4.8080 |
| 11/32 | 0.30721 | 4.1154 | 0.32469 | 4.4605 | 0.34150 | 4.8194 |
| 3/8 | 0.30776 | 4.1260 | 0.32522 | 4.4715 | 0.34201 | 4.8308 |
| 13/32 | 0.30832 | 4.1366 | 0.32576 | 4.4825 | 0.34253 | 4.8423 |
| 7/16 | 0.30888 | 4.1472 | 0.32629 | 4.4935 | 0.34304 | 4.8538 |
| 15/32 | 0.30943 | 4.1578 | 0.32683 | 4.5046 | 0.34355 | 4.8652 |
| 1/2 | 0.30998 | 4.1684 | 0.32736 | 4.5156 | 0.34406 | 4.8767 |
| 17/32 | 0.31054 | 4.1790 | 0.32789 | 4.5267 | 0.34458 | 4.8882 |
| 9/16 | 0.31109 | 4.1897 | 0.32842 | 4.5378 | 0.34509 | 4.8998 |
| 19/32 | 0.31164 | 4.2004 | 0.32895 | 4.5489 | 0.34560 | 4.9113 |
| 5/8 | 0.31219 | 4.2110 | 0.32948 | 4.5600 | 0.34611 | 4.9229 |
| 21/32 | 0.31275 | 4.2217 | 0.33001 | 4.5711 | 0.34662 | 4.9344 |
| 11/16 | 0.31330 | 4.2324 | 0.33054 | 4.5823 | 0.34713 | 4.9460 |
| 23/32 | 0.31385 | 4.2432 | 0.33107 | 4.5934 | 0.34763 | 4.9576 |
| 3/4 | 0.31439 | 4.2539 | 0.33160 | 4.6046 | 0.34814 | 4.9692 |
| 25/32 | 0.31494 | 4.2647 | 0.33212 | 4.6158 | 0.34865 | 4.9808 |
| 13/16 | 0.31549 | 4.2754 | 0.33265 | 4.6270 | 0.34916 | 4.9924 |
| 27/32 | 0.31604 | 4.2862 | 0.33317 | 4.6382 | 0.34966 | 5.0041 |
| 7/8 | 0.31658 | 4.2970 | 0.33370 | 4.6494 | 0.35017 | 5.0157 |
| 29/32 | 0.31713 | 4.3078 | 0.33422 | 4.6607 | 0.35067 | 5.0274 |
| 15/16 | 0.31767 | 4.3186 | 0.33475 | 4.6719 | 0.35118 | 5.0391 |
| 31/32 | 0.31822 | 4.3294 | 0.33527 | 4.6832 | 0.35168 | 5.0508 |
| 1 | 0.31876 | 4.3403 | 0.33579 | 4.6944 | 0.35218 | 5.0625 |

| Fractions of an inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.35218 | 5.0625 | 0.36798 | 5.4444 | 0.38322 | 5.8403 |
| 1/32 | 0.35268 | 5.0742 | 0.36846 | 5.4566 | 0.38368 | 5.8529 |
| 1/16 | 0.35319 | 5.0860 | 0.36895 | 5.4688 | 0.38415 | 5.8655 |
| 3/32 | 0.35369 | 5.0977 | 0.36943 | 5.4810 | 0.38462 | 5.8781 |
| 1/8 | 0.35419 | 5.1095 | 0.36991 | 5.4932 | 0.38508 | 5.8907 |
| 5/32 | 0.35469 | 5.1213 | 0.37039 | 5.5054 | 0.38555 | 5.9034 |
| 3/16 | 0.35519 | 5.1331 | 0.37088 | 5.5176 | 0.38602 | 5.9160 |
| 7/32 | 0.35569 | 5.1449 | 0.37136 | 5.5298 | 0.38648 | 5.9287 |
| 1/4 | 0.35619 | 5.1567 | 0.37184 | 5.5421 | 0.38694 | 5.9414 |
| 9/32 | 0.35668 | 5.1685 | 0.37232 | 5.5544 | 0.38741 | 5.9541 |
| 5/16 | 0.35718 | 5.1804 | 0.37280 | 5.5667 | 0.38787 | 5.9668 |
| 11/32 | 0.35768 | 5.1922 | 0.37328 | 5.5789 | 0.38833 | 5.9796 |
| 3/8 | 0.35817 | 5.2041 | 0.37375 | 5.5913 | 0.38880 | 5.9923 |
| 13/32 | 0.35867 | 5.2160 | 0.37423 | 5.6036 | 0.38926 | 6.0051 |
| 7/16 | 0.35916 | 5.2279 | 0.37471 | 5.6159 | 0.38972 | 6.0178 |
| 15/32 | 0.35966 | 5.2398 | 0.37519 | 5.6283 | 0.39018 | 6.0306 |
| 1/2 | 0.36015 | 5.2517 | 0.37566 | 5.6406 | 0.39064 | 6.0434 |
| 17/32 | 0.36064 | 5.2637 | 0.37614 | 5.6530 | 0.39110 | 6.0562 |
| 9/16 | 0.36114 | 5.2756 | 0.37661 | 5.6654 | 0.39156 | 6.0690 |
| 19/32 | 0.36163 | 5.2876 | 0.37709 | 5.6778 | 0.39202 | 6.0819 |
| 5/8 | 0.36212 | 5.2996 | 0.37756 | 5.6902 | 0.39248 | 6.0947 |
| 21/32 | 0.36261 | 5.3116 | 0.37804 | 5.7026 | 0.39293 | 6.1076 |
| 11/16 | 0.36310 | 5.3236 | 0.37851 | 5.7151 | 0.39339 | 6.1205 |
| 23/32 | 0.36359 | 5.3356 | 0.37898 | 5.7275 | 0.39385 | 6.1334 |
| 3/4 | 0.36408 | 5.3477 | 0.37946 | 5.7400 | 0.39431 | 6.1463 |
| 25/32 | 0.36457 | 5.3597 | 0.37993 | 5.7525 | 0.39476 | 6.1592 |
| 13/16 | 0.36506 | 5.3718 | 0.38040 | 5.7650 | 0.39522 | 6.1721 |
| 27/32 | 0.36555 | 5.3839 | 0.38087 | 5.7775 | 0.39567 | 6.1851 |
| 7/8 | 0.36603 | 5.3959 | 0.38134 | 5.7900 | 0.39613 | 6.1980 |
| 29/32 | 0.36652 | 5.4080 | 0.38181 | 5.8026 | 0.39658 | 6.2110 |
| 15/16 | 0.36701 | 5.4202 | 0.38228 | 5.8151 | 0.39703 | 6.2240 |
| 31/32 | 0.36749 | 5.4323 | 0.38275 | 5.8277 | 0.39749 | 6.2370 |
| 1 | 0.36798 | 5.4444 | 0.38322 | 5.8403 | 0.39794 | 6.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.39794 | 6.2500 | 0.41218 | 6.6736 | 0.42597 | 7.1111 |
| 1/32 | 0.39839 | 6.2630 | 0.41262 | 6.6871 | 0.42639 | 7.1250 |
| 1/16 | 0.39884 | 6.2761 | 0.41306 | 6.7005 | 0.42682 | 7.1389 |
| 3/32 | 0.39930 | 6.2891 | 0.41349 | 6.7140 | 0.42724 | 7.1528 |
| 1/8 | 0.39975 | 6.3022 | 0.41393 | 6.7275 | 0.42766 | 7.1668 |
| 5/32 | 0.40020 | 6.3153 | 0.41436 | 6.7411 | 0.42808 | 7.1807 |
| 3/16 | 0.40065 | 6.3284 | 0.41480 | 6.7546 | 0.42851 | 7.1947 |
| 7/32 | 0.40110 | 6.3415 | 0.41523 | 6.7681 | 0.42893 | 7.2087 |
| 1/4 | 0.40154 | 6.3546 | 0.41567 | 6.7817 | 0.42935 | 7.2227 |
| 9/32 | 0.40199 | 6.3677 | 0.41610 | 6.7953 | 0.42977 | 7.2367 |
| 5/16 | 0.40244 | 6.3809 | 0.41654 | 6.8088 | 0.43019 | 7.2507 |
| 11/32 | 0.40289 | 6.3940 | 0.41697 | 6.8224 | 0.43061 | 7.2647 |
| 3/8 | 0.40334 | 6.4072 | 0.41740 | 6.8360 | 0.43103 | 7.2788 |
| 13/32 | 0.40378 | 6.4204 | 0.41783 | 6.8497 | 0.43145 | 7.2928 |
| 7/16 | 0.40423 | 6.4336 | 0.41827 | 6.8633 | 0.43187 | 7.3069 |
| 15/32 | 0.40467 | 6.4468 | 0.41870 | 6.8770 | 0.43228 | 7.3210 |
| 1/2 | 0.40512 | 6.4601 | 0.41913 | 6.8906 | 0.43270 | 7.3351 |
| 17/32 | 0.40556 | 6.4733 | 0.41956 | 6.9043 | 0.43312 | 7.3492 |
| 9/16 | 0.40601 | 6.4866 | 0.41999 | 6.9180 | 0.43354 | 7.3633 |
| 19/32 | 0.40645 | 6.4998 | 0.42042 | 6.9317 | 0.43395 | 7.3774 |
| 5/8 | 0.40689 | 6.5131 | 0.42085 | 6.9454 | 0.43437 | 7.3916 |
| 21/32 | 0.40734 | 6.5264 | 0.42128 | 6.9592 | 0.43479 | 7.4058 |
| 11/16 | 0.40778 | 6.5397 | 0.42171 | 6.9729 | 0.43520 | 7.4199 |
| 23/32 | 0.40822 | 6.5531 | 0.42213 | 6.9867 | 0.43562 | 7.4341 |
| 3/4 | 0.40866 | 6.5664 | 0.42256 | 7.0004 | 0.43603 | 7.4484 |
| 25/32 | 0.40911 | 6.5798 | 0.42299 | 7.0142 | 0.43644 | 7.4626 |
| 13/16 | 0.40955 | 6.5931 | 0.42342 | 7.0280 | 0.43686 | 7.4768 |
| 27/32 | 0.40999 | 6.6065 | 0.42384 | 7.0418 | 0.43727 | 7.4911 |
| 7/8 | 0.41043 | 6.6199 | 0.42427 | 7.0557 | 0.43768 | 7.5053 |
| 29/32 | 0.41087 | 6.6333 | 0.42469 | 7.0695 | 0.43810 | 7.5196 |
| 15/16 | 0.41130 | 6.6467 | 0.42512 | 7.0834 | 0.43851 | 7.5339 |
| 31/32 | 0.41174 | 6.6602 | 0.42554 | 7.0972 | 0.43892 | 7.5482 |
| 1 | 0.41218 | 6.6736 | 0.42597 | 7.1111 | 0.43933 | 7.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.43933 | 7.5625 | 0.45230 | 8.0278 | 0.46489 | 8.5069 |
| 1/32 | 0.43974 | 7.5768 | 0.45270 | 8.0425 | 0.46527 | 8.5221 |
| 1/16 | 0.44015 | 7.5912 | 0.45310 | 8.0573 | 0.46566 | 8.5374 |
| 3/32 | 0.44056 | 7.6055 | 0.45349 | 8.0721 | 0.46605 | 8.5526 |
| 1/8 | 0.44097 | 7.6199 | 0.45389 | 8.0869 | 0.46644 | 8.5678 |
| 5/32 | 0.44138 | 7.6343 | 0.45429 | 8.1017 | 0.46682 | 8.5831 |
| 3/16 | 0.44179 | 7.6487 | 0.45469 | 8.1166 | 0.46721 | 8.5983 |
| 7/32 | 0.44220 | 7.6631 | 0.45508 | 8.1314 | 0.46759 | 8.6136 |
| 1/4 | 0.44261 | 7.6775 | 0.45548 | 8.1463 | 0.46798 | 8.6289 |
| 9/32 | 0.44302 | 7.6920 | 0.45588 | 8.1611 | 0.46836 | 8.6442 |
| 5/16 | 0.44343 | 7.7064 | 0.45627 | 8.1760 | 0.46875 | 8.6595 |
| 11/32 | 0.44383 | 7.7209 | 0.45667 | 8.1909 | 0.46913 | 8.6749 |
| 3/8 | 0.44424 | 7.7354 | 0.45706 | 8.2058 | 0.46952 | 8.6902 |
| 13/32 | 0.44465 | 7.7498 | 0.45746 | 8.2208 | 0.46990 | 8.7056 |
| 7/16 | 0.44505 | 7.7643 | 0.45785 | 8.2357 | 0.47028 | 8.7209 |
| 15/32 | 0.44546 | 7.7789 | 0.45824 | 8.2507 | 0.47066 | 8.7363 |
| 1/2 | 0.44586 | 7.7934 | 0.45864 | 8.2656 | 0.47105 | 8.7517 |
| 17/32 | 0.44627 | 7.8079 | 0.45903 | 8.2806 | 0.47143 | 8.7672 |
| 9/16 | 0.44667 | 7.8225 | 0.45942 | 8.2956 | 0.47181 | 8.7826 |
| 19/32 | 0.44708 | 7.8371 | 0.45982 | 8.3106 | 0.47219 | 8.7980 |
| 5/8 | 0.44748 | 7.8517 | 0.46021 | 8.3256 | 0.47257 | 8.8135 |
| 21/32 | 0.44788 | 7.8663 | 0.46060 | 8.3407 | 0.47295 | 8.8289 |
| 11/16 | 0.44829 | 7.8809 | 0.46099 | 8.3557 | 0.47333 | 8.8444 |
| 23/32 | 0.44869 | 7.8955 | 0.46138 | 8.3708 | 0.47372 | 8.8599 |
| 3/4 | 0.44909 | 7.9102 | 0.46177 | 8.3859 | 0.47409 | 8.8754 |
| 25/32 | 0.44949 | 7.9248 | 0.46216 | 8.4009 | 0.47447 | 8.8910 |
| 13/16 | 0.44990 | 7.9395 | 0.46255 | 8.4160 | 0.47485 | 8.9065 |
| 27/32 | 0.45030 | 7.9542 | 0.46294 | 8.4312 | 0.47523 | 8.9220 |
| 7/8 | 0.45070 | 7.9689 | 0.46333 | 8.4463 | 0.47561 | 8.9376 |
| 29/32 | 0.45110 | 7.9836 | 0.46372 | 8.4614 | 0.47599 | 8.9532 |
| 15/16 | 0.45150 | 7.9983 | 0.46411 | 8.4766 | 0.47637 | 8.9688 |
| 31/32 | 0.45190 | 8.0130 | 0.46450 | 8.4918 | 0.47674 | 8.9844 |
| 1 | 0.45230 | 8.0278 | 0.46489 | 8.5069 | 0.47712 | 9.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.47712 | 9.0000 | 0.48902 | 9.5069 | 0.50060 | 10.0278 |
| 1/32 | 0.47750 | 9.0156 | 0.48939 | 9.5230 | 0.50096 | 10.0443 |
| 1/16 | 0.47787 | 9.0313 | 0.48975 | 9.5391 | 0.50132 | 10.0608 |
| 3/32 | 0.47825 | 9.0469 | 0.49012 | 9.5552 | 0.50167 | 10.0773 |
| 1/8 | 0.47863 | 9.0626 | 0.49049 | 9.5713 | 0.50203 | 10.0939 |
| 5/32 | 0.47900 | 9.0783 | 0.49085 | 9.5874 | 0.50238 | 10.1104 |
| 3/16 | 0.47938 | 9.0940 | 0.49122 | 9.6035 | 0.50274 | 10.1270 |
| 7/32 | 0.47975 | 9.1097 | 0.49158 | 9.6197 | 0.50310 | 10.1436 |
| 1/4 | 0.48013 | 9.1254 | 0.49195 | 9.6359 | 0.50345 | 10.1602 |
| 9/32 | 0.48050 | 9.1412 | 0.49231 | 9.6520 | 0.50380 | 10.1768 |
| 5/16 | 0.48087 | 9.1569 | 0.49267 | 9.6682 | 0.50416 | 10.1934 |
| 11/32 | 0.48125 | 9.1727 | 0.49304 | 9.6844 | 0.50451 | 10.2100 |
| 3/8 | 0.48162 | 9.1885 | 0.49340 | 9.7006 | 0.50487 | 10.2267 |
| 13/32 | 0.48199 | 9.2043 | 0.49376 | 9.7169 | 0.50522 | 10.2433 |
| 7/16 | 0.48237 | 9.2201 | 0.49413 | 9.7331 | 0.50557 | 10.2600 |
| 15/32 | 0.48274 | 9.2359 | 0.49449 | 9.7494 | 0.50593 | 10.2767 |
| 1/2 | 0.48311 | 9.2517 | 0.49485 | 9.7656 | 0.50628 | 10.2934 |
| 17/32 | 0.48348 | 9.2676 | 0.49521 | 9.7819 | 0.50663 | 10.3101 |
| 9/16 | 0.48385 | 9.2834 | 0.49557 | 9.7982 | 0.50698 | 10.3269 |
| 19/32 | 0.48423 | 9.2993 | 0.49593 | 9.8145 | 0.50734 | 10.3436 |
| 5/8 | 0.48460 | 9.3152 | 0.49630 | 9.8308 | 0.50769 | 10.3604 |
| 21/32 | 0.48497 | 9.3311 | 0.49666 | 9.8472 | 0.50804 | 10.3771 |
| 11/16 | 0.48534 | 9.3470 | 0.49702 | 9.8635 | 0.50839 | 10.3939 |
| 23/32 | 0.48571 | 9.3630 | 0.49738 | 9.8799 | 0.50874 | 10.4107 |
| 3/4 | 0.48608 | 9.3789 | 0.49774 | 9.8963 | 0.50909 | 10.4275 |
| 25/32 | 0.48645 | 9.3949 | 0.49810 | 9.9127 | 0.50944 | 10.4443 |
| 13/16 | 0.48681 | 9.4108 | 0.49845 | 9.9291 | 0.50979 | 10.4612 |
| 27/32 | 0.48718 | 9.4268 | 0.49881 | 9.9455 | 0.51014 | 10.4780 |
| 7/8 | 0.48755 | 9.4428 | 0.49917 | 9.9619 | 0.51049 | 10.4949 |
| 29/32 | 0.48792 | 9.4588 | 0.49953 | 9.9784 | 0.51084 | 10.5118 |
| 15/16 | 0.48829 | 9.4749 | 0.49989 | 9.9948 | 0.51119 | 10.5287 |
| 31/32 | 0.48865 | 9.4909 | 0.50025 | 10.0113 | 0.51154 | 10.5456 |
| 1 | 0.48902 | 9.5069 | 0.50060 | 10.0278 | 0.51188 | 10.5625 |

| Fractions of an inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.51188 | 10.5625 | 0.52288 | 11.1111 | 0.53360 | 11.6736 |
| 1/32 | 0.51223 | 10.5794 | 0.52322 | 11.1285 | 0.53393 | 11.6914 |
| 1/16 | 0.51258 | 10.5964 | 0.52356 | 11.1459 | 0.53426 | 11.7092 |
| 3/32 | 0.51293 | 10.6133 | 0.52390 | 11.1633 | 0.53459 | 11.7271 |
| 1/8 | 0.51327 | 10.6303 | 0.52423 | 11.1807 | 0.53492 | 11.7449 |
| 5/32 | 0.51362 | 10.6473 | 0.52457 | 11.1981 | 0.53525 | 11.7628 |
| 3/16 | 0.51397 | 10.6643 | 0.52491 | 11.2155 | 0.53558 | 11.7806 |
| 7/32 | 0.51431 | 10.6813 | 0.52525 | 11.2330 | 0.53591 | 11.7985 |
| 1/4 | 0.51466 | 10.6984 | 0.52558 | 11.2504 | 0.53624 | 11.8164 |
| 9/32 | 0.51500 | 10.7154 | 0.52592 | 11.2679 | 0.53657 | 11.8343 |
| 5/16 | 0.51535 | 10.7324 | 0.52626 | 11.2854 | 0.53690 | 11.8522 |
| 11/32 | 0.51569 | 10.7495 | 0.52660 | 11.3029 | 0.53723 | 11.8702 |
| 3/8 | 0.51604 | 10.7666 | 0.52693 | 11.3204 | 0.53756 | 11.8881 |
| 13/32 | 0.51638 | 10.7837 | 0.52727 | 11.3380 | 0.53788 | 11.9061 |
| 7/16 | 0.51673 | 10.8008 | 0.52760 | 11.3555 | 0.53821 | 11.9241 |
| 15/32 | 0.51707 | 10.8179 | 0.52794 | 11.3731 | 0.53854 | 11.9421 |
| 1/2 | 0.51742 | 10.8351 | 0.52827 | 11.3906 | 0.53887 | 11.9601 |
| 17/32 | 0.51776 | 10.8522 | 0.52861 | 11.4082 | 0.53919 | 11.9781 |
| 9/16 | 0.51810 | 10.8694 | 0.52894 | 11.4258 | 0.53952 | 11.9961 |
| 19/32 | 0.51845 | 10.8866 | 0.52928 | 11.4434 | 0.53985 | 12.0142 |
| 5/8 | 0.51879 | 10.9038 | 0.52961 | 11.4610 | 0.54017 | 12.0322 |
| 21/32 | 0.51913 | 10.9210 | 0.52995 | 11.4787 | 0.54050 | 12.0503 |
| 11/16 | 0.51947 | 10.9382 | 0.53028 | 11.4963 | 0.54082 | 12.0684 |
| 23/32 | 0.51981 | 10.9554 | 0.53061 | 11.5140 | 0.54115 | 12.0865 |
| 3/4 | 0.52016 | 10.9727 | 0.53095 | 11.5317 | 0.54148 | 12.1046 |
| 25/32 | 0.52050 | 10.9899 | 0.53128 | 11.5494 | 0.54180 | 12.1227 |
| 13/16 | 0.52084 | 11.0072 | 0.53161 | 11.5671 | 0.54212 | 12.1409 |
| 27/32 | 0.52118 | 11.0245 | 0.53194 | 11.5848 | 0.54245 | 12.1590 |
| 7/8 | 0.52152 | 11.0418 | 0.53228 | 11.6025 | 0.54277 | 12.1772 |
| 29/32 | 0.52186 | 11.0591 | 0.53261 | 11.6203 | 0.54310 | 12.1954 |
| 15/16 | 0.52220 | 11.0764 | 0.53294 | 11.6380 | 0.54342 | 12.2136 |
| 31/32 | 0.52254 | 11.0938 | 0.53327 | 11.6558 | 0.54374 | 12.2318 |
| 1 | 0.52288 | 11.1111 | 0.53360 | 11.6736 | 0.54407 | 12.2500 |

| Fractions of an inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.54407 | 12.2500 | 0.55429 | 12.8403 | 0.56427 | 13.4444 |
| 1/32 | 0.54439 | 12.2682 | 0.55460 | 12.8589 | 0.56458 | 13.4635 |
| 1/16 | 0.54471 | 12.2865 | 0.55492 | 12.8776 | 0.56489 | 13.4827 |
| 3/32 | 0.54504 | 12.3047 | 0.55523 | 12.8963 | 0.56520 | 13.5018 |
| 1/8 | 0.54536 | 12.3230 | 0.55555 | 12.9150 | 0.56550 | 13.5209 |
| 5/32 | 0.54568 | 12.3413 | 0.55586 | 12.9338 | 0.56581 | 13.5401 |
| 3/16 | 0.54600 | 12.3596 | 0.55618 | 12.9525 | 0.56612 | 13.5593 |
| 7/32 | 0.54632 | 12.3779 | 0.55649 | 12.9713 | 0.56643 | 13.5785 |
| 1/4 | 0.54665 | 12.3963 | 0.55680 | 12.9900 | 0.56673 | 13.5977 |
| 9/32 | 0.54697 | 12.4146 | 0.55712 | 13.0088 | 0.56704 | 13.6169 |
| 5/16 | 0.54729 | 12.4330 | 0.55743 | 13.0276 | 0.56735 | 13.6361 |
| 11/32 | 0.54761 | 12.4513 | 0.55775 | 13.0464 | 0.56765 | 13.6553 |
| 3/8 | 0.54793 | 12.4697 | 0.55806 | 13.0652 | 0.56796 | 13.6746 |
| 13/32 | 0.54825 | 12.4881 | 0.55837 | 13.0840 | 0.56826 | 13.6939 |
| 7/16 | 0.54857 | 12.5065 | 0.55868 | 13.1029 | 0.56857 | 13.7131 |
| 15/32 | 0.54889 | 12.5250 | 0.55900 | 13.1218 | 0.56887 | 13.7324 |
| 1/2 | 0.54921 | 12.5434 | 0.55931 | 13.1406 | 0.56918 | 13.7517 |
| 17/32 | 0.54953 | 12.5619 | 0.55962 | 13.1595 | 0.56948 | 13.7711 |
| 9/16 | 0.54985 | 12.5803 | 0.55993 | 13.1784 | 0.56979 | 13.7904 |
| 19/32 | 0.55016 | 12.5988 | 0.56024 | 13.1973 | 0.57009 | 13.8097 |
| 5/8 | 0.55048 | 12.6173 | 0.56055 | 13.2163 | 0.57040 | 13.8291 |
| 21/32 | 0.55080 | 12.6358 | 0.56087 | 13.2352 | 0.57070 | 13.8485 |
| 11/16 | 0.55112 | 12.6543 | 0.56118 | 13.2542 | 0.57100 | 13.8679 |
| 23/32 | 0.55144 | 12.6729 | 0.56149 | 13.2731 | 0.57131 | 13.8873 |
| 3/4 | 0.55175 | 12.6914 | 0.56180 | 13.2921 | 0.57161 | 13.9067 |
| 25/32 | 0.55207 | 12.7100 | 0.56211 | 13.3111 | 0.57191 | 13.9261 |
| 13/16 | 0.55239 | 12.7285 | 0.56242 | 13.3301 | 0.57222 | 13.9456 |
| 27/32 | 0.55271 | 12.7471 | 0.56273 | 13.3491 | 0.57252 | 13.9650 |
| 7/8 | 0.55302 | 12.7657 | 0.56304 | 13.3682 | 0.57282 | 13.9845 |
| 29/32 | 0.55334 | 12.7843 | 0.56335 | 13.3872 | 0.57313 | 14.0040 |
| 15/16 | 0.55366 | 12.8030 | 0.56365 | 13.4063 | 0.57343 | 14.0235 |
| 31/32 | 0.55397 | 12.8216 | 0.56396 | 13.4254 | 0.57373 | 14.0430 |
| 1 | 0.55429 | 12.8403 | 0.56427 | 13.4444 | 0.57403 | 14.0625 |

| Fractions of an inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.57403 | 14.0625 | 0.58358 | 14.6944 | 0.59292 | 15.3403 |
| 1/32 | 0.57433 | 14.0820 | 0.58387 | 14.7144 | 0.59321 | 15.3607 |
| 1/16 | 0.57463 | 14.1016 | 0.58417 | 14.7344 | 0.59349 | 15.3811 |
| 3/32 | 0.57494 | 14.1212 | 0.58446 | 14.7544 | 0.59378 | 15.4015 |
| 1/8 | 0.57524 | 14.1407 | 0.58476 | 14.7744 | 0.59407 | 15.4220 |
| 5/32 | 0.57554 | 14.1603 | 0.58505 | 14.7944 | 0.59436 | 15.4424 |
| 3/16 | 0.57584 | 14.1799 | 0.58534 | 14.8145 | 0.59465 | 15.4629 |
| 7/32 | 0.57614 | 14.1996 | 0.58564 | 14.8345 | 0.59493 | 15.4834 |
| 1/4 | 0.57644 | 14.2192 | 0.58593 | 14.8546 | 0.59522 | 15.5039 |
| 9/32 | 0.57674 | 14.2388 | 0.58622 | 14.8747 | 0.59551 | 15.5244 |
| 5/16 | 0.57704 | 14.2585 | 0.58652 | 14.8948 | 0.59579 | 15.5449 |
| 11/32 | 0.57734 | 14.2782 | 0.58681 | 14.9149 | 0.59608 | 15.5655 |
| 3/8 | 0.57764 | 14.2979 | 0.58710 | 14.9350 | 0.59637 | 15.5860 |
| 13/32 | 0.57793 | 14.3176 | 0.58740 | 14.9551 | 0.59665 | 15.6066 |
| 7/16 | 0.57823 | 14.3373 | 0.58769 | 14.9753 | 0.59694 | 15.6272 |
| 15/32 | 0.57853 | 14.3570 | 0.58798 | 14.9954 | 0.59723 | 15.6478 |
| 1/2 | 0.57883 | 14.3767 | 0.58827 | 15.0156 | 0.59751 | 15.6684 |
| 17/32 | 0.57913 | 14.3965 | 0.58856 | 15.0358 | 0.59780 | 15.6890 |
| 9/16 | 0.57943 | 14.4163 | 0.58886 | 15.0560 | 0.59808 | 15.7097 |
| 19/32 | 0.57972 | 14.4360 | 0.58915 | 15.0762 | 0.59837 | 15.7303 |
| 5/8 | 0.58002 | 14.4558 | 0.58944 | 15.0965 | 0.59865 | 15.7510 |
| 21/32 | 0.58032 | 14.4756 | 0.58973 | 15.1167 | 0.59894 | 15.7717 |
| 11/16 | 0.58062 | 14.4955 | 0.59002 | 15.1370 | 0.59922 | 15.7923 |
| 23/32 | 0.58091 | 14.5153 | 0.59031 | 15.1572 | 0.59951 | 15.8130 |
| 3/4 | 0.58121 | 14.5352 | 0.59060 | 15.1775 | 0.59979 | 15.8338 |
| 25/32 | 0.58151 | 14.5550 | 0.59089 | 15.1978 | 0.60008 | 15.8545 |
| 13/16 | 0.58180 | 14.5749 | 0.59118 | 15.2181 | 0.60036 | 15.8752 |
| 27/32 | 0.58210 | 14.5948 | 0.59147 | 15.2385 | 0.60064 | 15.8960 |
| 7/8 | 0.58239 | 14.6147 | 0.59176 | 15.2588 | 0.60093 | 15.9168 |
| 29/32 | 0.58269 | 14.6346 | 0.59205 | 15.2791 | 0.60121 | 15.9376 |
| 15/16 | 0.58299 | 14.6545 | 0.59234 | 15.2995 | 0.60149 | 15.9584 |
| 31/32 | 0.58328 | 14.6745 | 0.59263 | 15.3199 | 0.60178 | 15.9792 |
| 1 | 0.58358 | 14.6944 | 0.59292 | 15.3403 | 0.60206 | 16.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.60206 | 16.0000 | 0.61101 | 16.6736 | 0.61979 | 17.3611 |
| 1/32 | 0.60234 | 16.0208 | 0.61129 | 16.6949 | 0.62006 | 17.3828 |
| 1/16 | 0.60263 | 16.0417 | 0.61157 | 16.7162 | 0.62033 | 17.4045 |
| 3/32 | 0.60291 | 16.0626 | 0.61184 | 16.7375 | 0.62060 | 17.4263 |
| 1/8 | 0.60319 | 16.0834 | 0.61212 | 16.7588 | 0.62087 | 17.4480 |
| 5/32 | 0.60347 | 16.1043 | 0.61240 | 16.7801 | 0.62114 | 17.4698 |
| 3/16 | 0.60375 | 16.1252 | 0.61267 | 16.8015 | 0.62141 | 17.4916 |
| 7/32 | 0.60403 | 16.1462 | 0.61295 | 16.8228 | 0.62168 | 17.5134 |
| 1/4 | 0.60432 | 16.1671 | 0.61322 | 16.8442 | 0.62195 | 17.5352 |
| 9/32 | 0.60460 | 16.1880 | 0.61350 | 16.8656 | 0.62222 | 17.5570 |
| 5/16 | 0.60488 | 16.2090 | 0.61378 | 16.8870 | 0.62249 | 17.5788 |
| 11/32 | 0.60516 | 16.2300 | 0.61405 | 16.9084 | 0.62276 | 17.6006 |
| 3/8 | 0.60544 | 16.2510 | 0.61433 | 16.9298 | 0.62303 | 17.6225 |
| 13/32 | 0.60572 | 16.2720 | 0.61460 | 16.9512 | 0.62330 | 17.6444 |
| 7/16 | 0.60600 | 16.2930 | 0.61488 | 16.9727 | 0.62357 | 17.6663 |
| 15/32 | 0.60628 | 16.3140 | 0.61515 | 16.9941 | 0.62384 | 17.6882 |
| 1/2 | 0.60656 | 16.3351 | 0.61542 | 17.0156 | 0.62411 | 17.7101 |
| 17/32 | 0.60684 | 16.3561 | 0.61570 | 17.0371 | 0.62438 | 17.7320 |
| 9/16 | 0.60712 | 16.3772 | 0.61597 | 17.0586 | 0.62465 | 17.7539 |
| 19/32 | 0.60740 | 16.3983 | 0.61625 | 17.0801 | 0.62492 | 17.7759 |
| 5/8 | 0.60768 | 16.4194 | 0.61652 | 17.1017 | 0.62518 | 17.7979 |
| 21/32 | 0.60796 | 16.4405 | 0.61679 | 17.1232 | 0.62545 | 17.8198 |
| 11/16 | 0.60824 | 16.4616 | 0.61707 | 17.1448 | 0.62572 | 17.8418 |
| 23/32 | 0.60851 | 16.4828 | 0.61734 | 17.1663 | 0.62599 | 17.8638 |
| 3/4 | 0.60879 | 16.5039 | 0.61761 | 17.1879 | 0.62625 | 17.8859 |
| 25/32 | 0.60907 | 16.5251 | 0.61788 | 17.2095 | 0.62652 | 17.9079 |
| 13/16 | 0.60935 | 16.5463 | 0.61816 | 17.2311 | 0.62679 | 17.9299 |
| 27/32 | 0.60963 | 16.5674 | 0.61843 | 17.2528 | 0.62706 | 17.9520 |
| 7/8 | 0.60991 | 16.5886 | 0.61870 | 17.2744 | 0.62732 | 17.9741 |
| 29/32 | 0.61018 | 16.6099 | 0.61897 | 17.2961 | 0.62759 | 17.9962 |
| 15/16 | 0.61046 | 16.6311 | 0.61925 | 17.3177 | 0.62786 | 18.0183 |
| 31/32 | 0.61074 | 16.6524 | 0.61952 | 17.3394 | 0.62812 | 18.0404 |
| 1 | 0.61101 | 16.6736 | 0.61979 | 17.3611 | 0.62839 | 18.0625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.62839 | 18.0625 | 0.63682 | 18.7778 | 0.64509 | 19.5069 |
| 1/32 | 0.62865 | 18.0846 | 0.63708 | 18.8004 | 0.64535 | 19.5300 |
| 1/16 | 0.62892 | 18.1068 | 0.63734 | 18.8229 | 0.64561 | 19.5530 |
| 3/32 | 0.62919 | 18.1290 | 0.63760 | 18.8455 | 0.64586 | 19.5760 |
| 1/8 | 0.62945 | 18.1512 | 0.63786 | 18.8682 | 0.64612 | 19.5991 |
| 5/32 | 0.62972 | 18.1733 | 0.63813 | 18.8908 | 0.64637 | 19.6221 |
| 3/16 | 0.62998 | 18.1956 | 0.63839 | 18.9134 | 0.64663 | 19.6452 |
| 7/32 | 0.63025 | 18.2178 | 0.63865 | 18.9361 | 0.64688 | 19.6683 |
| 1/4 | 0.63051 | 18.2400 | 0.63891 | 18.9588 | 0.64714 | 19.6914 |
| 9/32 | 0.63078 | 18.2623 | 0.63916 | 18.9815 | 0.64739 | 19.7145 |
| 5/16 | 0.63104 | 18.2845 | 0.63942 | 19.0042 | 0.64765 | 19.7377 |
| 11/32 | 0.63131 | 18.3068 | 0.63968 | 19.0269 | 0.64790 | 19.7608 |
| 3/8 | 0.63157 | 18.3291 | 0.63994 | 19.0496 | 0.64816 | 19.7840 |
| 13/32 | 0.63183 | 18.3514 | 0.64020 | 19.0723 | 0.64841 | 19.8071 |
| 7/16 | 0.63210 | 18.3737 | 0.64046 | 19.0951 | 0.64866 | 19.8303 |
| 15/32 | 0.63236 | 18.3961 | 0.64072 | 19.1178 | 0.64892 | 19.8535 |
| 1/2 | 0.63263 | 18.4184 | 0.64098 | 19.1406 | 0.64917 | 19.8767 |
| 17/32 | 0.63289 | 18.4408 | 0.64124 | 19.1634 | 0.64943 | 19.9000 |
| 9/16 | 0.63315 | 18.4631 | 0.64149 | 19.1862 | 0.64968 | 19.9232 |
| 19/32 | 0.63342 | 18.4855 | 0.64175 | 19.2090 | 0.64993 | 19.9465 |
| 5/8 | 0.63368 | 18.5079 | 0.64201 | 19.2319 | 0.65019 | 19.9697 |
| 21/32 | 0.63394 | 18.5303 | 0.64227 | 19.2547 | 0.65044 | 19.9930 |
| 11/16 | 0.63420 | 18.5528 | 0.64253 | 19.2776 | 0.65069 | 20.0163 |
| 23/32 | 0.63447 | 18.5752 | 0.64278 | 19.3005 | 0.65094 | 20.0396 |
| 3/4 | 0.63473 | 18.5977 | 0.64304 | 19.3234 | 0.65120 | 20.0629 |
| 25/32 | 0.63499 | 18.6201 | 0.64330 | 19.3463 | 0.65145 | 20.0863 |
| 13/16 | 0.63525 | 18.6426 | 0.64356 | 19.3692 | 0.65170 | 20.1096 |
| 27/32 | 0.63552 | 18.6651 | 0.64381 | 19.3921 | 0.65195 | 20.1330 |
| 7/8 | 0.63578 | 18.6876 | 0.64407 | 19.4150 | 0.65221 | 20.1564 |
| 29/32 | 0.63604 | 18.7101 | 0.64433 | 19.4380 | 0.65246 | 20.1797 |
| 15/16 | 0.63630 | 18.7327 | 0.64458 | 19.4610 | 0.65271 | 20.2032 |
| 31/32 | 0.63656 | 18.7552 | 0.64484 | 19.4839 | 0.65296 | 20.2266 |
| 1 | 0.63682 | 18.7778 | 0.64509 | 19.5069 | 0.65321 | 20.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.65321 | 20.2500 | 0.66118 | 21.0069 | 0.66901 | 21.7778 |
| 1/32 | 0.65346 | 20.2734 | 0.66143 | 21.0308 | 0.66925 | 21.8021 |
| 1/16 | 0.65371 | 20.2969 | 0.66167 | 21.0547 | 0.66949 | 21.8264 |
| 3/32 | 0.65397 | 20.3204 | 0.66192 | 21.0786 | 0.66973 | 21.8508 |
| 1/8 | 0.65422 | 20.3439 | 0.66217 | 21.1025 | 0.66998 | 21.8751 |
| 5/32 | 0.65447 | 20.3674 | 0.66241 | 21.1265 | 0.67022 | 21.8995 |
| 3/16 | 0.65472 | 20.3909 | 0.66266 | 21.1504 | 0.67046 | 21.9239 |
| 7/32 | 0.65497 | 20.4144 | 0.66291 | 21.1744 | 0.67070 | 21.9482 |
| 1/4 | 0.65522 | 20.4379 | 0.66315 | 21.1984 | 0.67094 | 21.9727 |
| 9/32 | 0.65547 | 20.4615 | 0.66340 | 21.2223 | 0.67118 | 21.9971 |
| 5/16 | 0.65572 | 20.4851 | 0.66364 | 21.2463 | 0.67142 | 22.0215 |
| 11/32 | 0.65597 | 20.5086 | 0.66389 | 21.2704 | 0.67166 | 22.0460 |
| 3/8 | 0.65622 | 20.5322 | 0.66413 | 21.2944 | 0.67191 | 22.0704 |
| 13/32 | 0.65647 | 20.5558 | 0.66438 | 21.3184 | 0.67215 | 22.0949 |
| 7/16 | 0.65672 | 20.5795 | 0.66462 | 21.3425 | 0.67239 | 22.1194 |
| 15/32 | 0.65697 | 20.6031 | 0.66487 | 21.3665 | 0.67263 | 22.1439 |
| 1/2 | 0.65722 | 20.6267 | 0.66511 | 21.3906 | 0.67287 | 22.1684 |
| 17/32 | 0.65746 | 20.6504 | 0.66536 | 21.4147 | 0.67311 | 22.1929 |
| 9/16 | 0.65771 | 20.6741 | 0.66560 | 21.4388 | 0.67335 | 22.2175 |
| 19/32 | 0.65796 | 20.6978 | 0.66584 | 21.4630 | 0.67359 | 22.2420 |
| 5/8 | 0.65821 | 20.7215 | 0.66609 | 21.4871 | 0.67383 | 22.2666 |
| 21/32 | 0.65846 | 20.7452 | 0.66633 | 21.5112 | 0.67407 | 22.2912 |
| 11/16 | 0.65871 | 20.7689 | 0.66658 | 21.5354 | 0.67431 | 22.3158 |
| 23/32 | 0.65895 | 20.7927 | 0.66682 | 21.5596 | 0.67455 | 22.3404 |
| 3/4 | 0.65920 | 20.8164 | 0.66706 | 21.5838 | 0.67478 | 22.3650 |
| 25/32 | 0.65945 | 20.8402 | 0.66731 | 21.6080 | 0.67502 | 22.3897 |
| 13/16 | 0.65970 | 20.8640 | 0.66755 | 21.6322 | 0.67526 | 22.4143 |
| 27/32 | 0.65995 | 20.8878 | 0.66779 | 21.6564 | 0.67550 | 22.4390 |
| 7/8 | 0.66019 | 20.9116 | 0.66804 | 21.6807 | 0.67574 | 22.4637 |
| 29/32 | 0.66044 | 20.9354 | 0.66828 | 21.7049 | 0.67598 | 22.4883 |
| 15/16 | 0.66069 | 20.9592 | 0.66852 | 21.7292 | 0.67622 | 22.5130 |
| 31/32 | 0.66093 | 20.9831 | 0.66876 | 21.7535 | 0.67646 | 22.5378 |
| 1 | 0.66118 | 21.0069 | 0.66901 | 21.7778 | 0.67669 | 22.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.67669 | 22.5625 | 0.68425 | 23.3611 | 0.69167 | 24.1736 |
| 1/32 | 0.67693 | 22.5872 | 0.68448 | 23.3863 | 0.69190 | 24.1992 |
| 1/16 | 0.67717 | 22.6120 | 0.68471 | 23.4115 | 0.69213 | 24.2249 |
| 3/32 | 0.67741 | 22.6368 | 0.68495 | 23.4367 | 0.69236 | 24.2505 |
| 1/8 | 0.67764 | 22.6616 | 0.68518 | 23.4619 | 0.69259 | 24.2762 |
| 5/32 | 0.67788 | 22.6864 | 0.68542 | 23.4871 | 0.69282 | 24.3018 |
| 3/16 | 0.67812 | 22.7112 | 0.68565 | 23.5124 | 0.69305 | 24.3275 |
| 7/32 | 0.67836 | 22.7360 | 0.68588 | 23.5377 | 0.69328 | 24.3532 |
| 1/4 | 0.67859 | 22.7609 | 0.68611 | 23.5629 | 0.69351 | 24.3789 |
| 9/32 | 0.67883 | 22.7857 | 0.68635 | 23.5882 | 0.69374 | 24.4046 |
| 5/16 | 0.67907 | 22.8106 | 0.68658 | 23.6135 | 0.69396 | 24.4304 |
| 11/32 | 0.67930 | 22.8355 | 0.68681 | 23.6388 | 0.69419 | 24.4561 |
| 3/8 | 0.67954 | 22.8604 | 0.68705 | 23.6642 | 0.69442 | 24.4819 |
| 13/32 | 0.67978 | 22.8853 | 0.68728 | 23.6895 | 0.69465 | 24.5077 |
| 7/16 | 0.68001 | 22.9102 | 0.68751 | 23.7149 | 0.69488 | 24.5334 |
| 15/32 | 0.68025 | 22.9351 | 0.68774 | 23.7402 | 0.69511 | 24.5593 |
| 1/2 | 0.68049 | 22.9601 | 0.68797 | 23.7656 | 0.69534 | 24.5851 |
| 17/32 | 0.68072 | 22.9850 | 0.68821 | 23.7910 | 0.69556 | 24.6109 |
| 9/16 | 0.68096 | 23.0100 | 0.68844 | 23.8164 | 0.69579 | 24.6367 |
| 19/32 | 0.68119 | 23.0350 | 0.68867 | 23.8419 | 0.69602 | 24.6626 |
| 5/8 | 0.68143 | 23.0600 | 0.68890 | 23.8673 | 0.69625 | 24.6885 |
| 21/32 | 0.68167 | 23.0850 | 0.68913 | 23.8927 | 0.69647 | 24.7144 |
| 11/16 | 0.68190 | 23.1101 | 0.68936 | 23.9182 | 0.69670 | 24.7403 |
| 23/32 | 0.68214 | 23.1351 | 0.68960 | 23.9437 | 0.69693 | 24.7662 |
| 3/4 | 0.68237 | 23.1602 | 0.68983 | 23.9692 | 0.69716 | 24.7921 |
| 25/32 | 0.68261 | 23.1852 | 0.69006 | 23.9947 | 0.69738 | 24.8180 |
| 13/16 | 0.68284 | 23.2103 | 0.69029 | 24.0202 | 0.69761 | 24.8440 |
| 27/32 | 0.68308 | 23.2354 | 0.69052 | 24.0457 | 0.69784 | 24.8700 |
| 7/8 | 0.68331 | 23.2605 | 0.69075 | 24.0713 | 0.69803 | 24.8959 |
| 29/32 | 0.68354 | 23.2857 | 0.69098 | 24.0968 | 0.69829 | 24.9219 |
| 15/16 | 0.68378 | 23.3108 | 0.69121 | 24.1224 | 0.69852 | 24.9479 |
| 31/32 | 0.68401 | 23.3359 | 0.69144 | 24.1480 | 0.69874 | 24.9740 |
| 1 | 0.68425 | 23.3611 | 0.69167 | 24.1736 | 0.69897 | 25.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.69897 | 25.0000 | 0.70615 | 25.8403 | 0.71321 | 26.6944 |
| 1/32 | 0.69920 | 25.0260 | 0.70637 | 25.8668 | 0.71343 | 26.7214 |
| 1/16 | 0.69942 | 25.0521 | 0.70659 | 25.8933 | 0.71365 | 26.7483 |
| 3/32 | 0.69965 | 25.0782 | 0.70682 | 25.9198 | 0.71387 | 26.7752 |
| 1/8 | 0.69987 | 25.1043 | 0.70704 | 25.9463 | 0.71409 | 26.8022 |
| 5/32 | 0.70010 | 25.1304 | 0.70726 | 25.9728 | 0.71430 | 26.8292 |
| 3/16 | 0.70033 | 25.1565 | 0.70748 | 25.9994 | 0.71452 | 26.8561 |
| 7/32 | 0.70055 | 25.1826 | 0.70770 | 26.0259 | 0.71474 | 26.8831 |
| 1/4 | 0.70078 | 25.2088 | 0.70792 | 26.0525 | 0.71496 | 26.9102 |
| 9/32 | 0.70100 | 25.2349 | 0.70815 | 26.0791 | 0.71518 | 26.9372 |
| 5/16 | 0.70123 | 25.2611 | 0.70837 | 26.1057 | 0.71539 | 26.9642 |
| 11/32 | 0.70145 | 25.2873 | 0.70859 | 26.1323 | 0.71561 | 26.9913 |
| 3/8 | 0.70168 | 25.3135 | 0.70881 | 26.1590 | 0.71583 | 27.0183 |
| 13/32 | 0.70190 | 25.3397 | 0.70903 | 26.1856 | 0.71605 | 27.0454 |
| 7/16 | 0.70213 | 25.3659 | 0.70925 | 26.2123 | 0.71626 | 27.0725 |
| 15/32 | 0.70235 | 25.3922 | 0.70947 | 26.2389 | 0.71648 | 27.0996 |
| 1/2 | 0.70257 | 25.4184 | 0.70969 | 26.2656 | 0.71670 | 27.1267 |
| 17/32 | 0.70280 | 25.4447 | 0.70991 | 26.2923 | 0.71692 | 27.1539 |
| 9/16 | 0.70302 | 25.4709 | 0.71014 | 26.3190 | 0.71713 | 27.1810 |
| 19/32 | 0.70325 | 25.4972 | 0.71036 | 26.3458 | 0.71735 | 27.2082 |
| 5/8 | 0.70347 | 25.5235 | 0.71058 | 26.3725 | 0.71757 | 27.2354 |
| 21/32 | 0.70369 | 25.5499 | 0.71080 | 26.3993 | 0.71778 | 27.2625 |
| 11/16 | 0.70392 | 25.5762 | 0.71102 | 26.4260 | 0.71800 | 27.2897 |
| 23/32 | 0.70414 | 25.6025 | 0.71124 | 26.4528 | 0.71822 | 27.3170 |
| 3/4 | 0.70437 | 25.6289 | 0.71146 | 26.4796 | 0.71843 | 27.3442 |
| 25/32 | 0.70459 | 25.6553 | 0.71168 | 26.5064 | 0.71865 | 27.3714 |
| 13/16 | 0.70481 | 25.6817 | 0.71190 | 26.5332 | 0.71886 | 27.3987 |
| 27/32 | 0.70503 | 25.7081 | 0.71211 | 26.5601 | 0.71908 | 27.4260 |
| 7/8 | 0.70526 | 25.7345 | 0.71233 | 26.5869 | 0.71930 | 27.4532 |
| 29/32 | 0.70548 | 25.7609 | 0.71255 | 26.6138 | 0.71951 | 27.4805 |
| 15/16 | 0.70570 | 25.7874 | 0.71277 | 26.6407 | 0.71973 | 27.5078 |
| 31/32 | 0.70593 | 25.8138 | 0.71299 | 26.6675 | 0.71994 | 27.5352 |
| 1 | 0.70615 | 25.8403 | 0.71321 | 26.6944 | 0.72016 | 27.5625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.72016 | 27.5625 | 0.72700 | 28.4444 | 0.73373 | 29.3403 |
| 1/32 | 0.72037 | 27.5899 | 0.72721 | 28.4722 | 0.73394 | 29.3685 |
| 1/16 | 0.72059 | 27.6172 | 0.72742 | 28.5000 | 0.73415 | 29.3967 |
| 3/32 | 0.72081 | 27.6446 | 0.72763 | 28.5278 | 0.73436 | 29.4250 |
| 1/8 | 0.72102 | 27.6720 | 0.72785 | 28.5557 | 0.73457 | 29.4532 |
| 5/32 | 0.72124 | 27.6994 | 0.72806 | 28.5835 | 0.73477 | 29.4815 |
| 3/16 | 0.72145 | 27.7268 | 0.72827 | 28.6114 | 0.73498 | 29.5098 |
| 7/32 | 0.72166 | 27.7542 | 0.72848 | 28.6392 | 0.73519 | 29.5381 |
| 1/4 | 0.72188 | 27.7817 | 0.72869 | 28.6671 | 0.73540 | 29.5664 |
| 9/32 | 0.72209 | 27.8091 | 0.72890 | 28.6950 | 0.73561 | 29.5947 |
| 5/16 | 0.72231 | 27.8366 | 0.72911 | 28.7229 | 0.73582 | 29.6231 |
| 11/32 | 0.72252 | 27.8641 | 0.72933 | 28.7508 | 0.73602 | 29.6514 |
| 3/8 | 0.72274 | 27.8916 | 0.72954 | 28.7788 | 0.73623 | 29.6798 |
| 13/32 | 0.72295 | 27.9191 | 0.72975 | 28.8067 | 0.73644 | 29.7082 |
| 7/16 | 0.72316 | 27.9466 | 0.72996 | 28.8347 | 0.73665 | 29.7366 |
| 15/32 | 0.72338 | 27.9742 | 0.73017 | 28.8626 | 0.73685 | 29.7650 |
| 1/2 | 0.72359 | 28.0017 | 0.73038 | 28.8906 | 0.73706 | 29.7934 |
| 17/32 | 0.72381 | 28.0293 | 0.73059 | 28.9186 | 0.73727 | 29.8218 |
| 9/16 | 0.72402 | 28.0569 | 0.73080 | 28.9466 | 0.73747 | 29.8503 |
| 19/32 | 0.72423 | 28.0845 | 0.73101 | 28.9747 | 0.73768 | 29.8788 |
| 5/8 | 0.72445 | 28.1121 | 0.73122 | 29.0027 | 0.73789 | 29.9072 |
| 21/32 | 0.72466 | 28.1397 | 0.73143 | 29.0308 | 0.73809 | 29.9357 |
| 11/16 | 0.72487 | 28.1673 | 0.73164 | 29.0588 | 0.73830 | 29.9642 |
| 23/32 | 0.72509 | 28.1950 | 0.73185 | 29.0869 | 0.73851 | 29.9927 |
| 3/4 | 0.72530 | 28.2227 | 0.73206 | 29.1150 | 0.73871 | 30.0213 |
| 25/32 | 0.72551 | 28.2503 | 0.73227 | 29.1431 | 0.73892 | 30.0498 |
| 13/16 | 0.72572 | 28.2780 | 0.73248 | 29.1713 | 0.73913 | 30.0784 |
| 27/32 | 0.72594 | 28.3057 | 0.73269 | 29.1994 | 0.73933 | 30.1069 |
| 7/8 | 0.72615 | 28.3334 | 0.73290 | 29.2275 | 0.73954 | 30.1355 |
| 29/32 | 0.72636 | 28.3612 | 0.73311 | 29.2557 | 0.73975 | 30.1641 |
| 15/16 | 0.72657 | 28.3889 | 0.73331 | 29.2839 | 0.73995 | 30.1927 |
| 31/32 | 0.72679 | 28.4167 | 0.73352 | 29.3121 | 0.74016 | 30.2214 |
| 1 | 0.72700 | 28.4444 | 0.73373 | 29.3403 | 0.74036 | 30.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.74036 | 30.2500 | 0.74689 | 31.1736 | 0.75333 | 32.1111 |
| 1/32 | 0.74057 | 30.2787 | 0.74710 | 31.2027 | 0.75353 | 32.1406 |
| 1/16 | 0.74077 | 30.3073 | 0.74730 | 31.2318 | 0.75373 | 32.1702 |
| 3/32 | 0.74098 | 30.3360 | 0.74750 | 31.2609 | 0.75393 | 32.1997 |
| 1/8 | 0.74118 | 30.3647 | 0.74770 | 31.2900 | 0.75413 | 32.2293 |
| 5/32 | 0.74139 | 30.3934 | 0.74791 | 31.3192 | 0.75432 | 32.2589 |
| 3/16 | 0.74159 | 30.4221 | 0.74811 | 31.3483 | 0.75452 | 32.2884 |
| 7/32 | 0.74180 | 30.4509 | 0.74831 | 31.3775 | 0.75472 | 32.3180 |
| 1/4 | 0.74200 | 30.4796 | 0.74851 | 31.4067 | 0.75492 | 32.3477 |
| 9/32 | 0.74221 | 30.5084 | 0.74871 | 31.4359 | 0.75512 | 32.3773 |
| 5/16 | 0.74241 | 30.5371 | 0.74891 | 31.4651 | 0.75532 | 32.4069 |
| 11/32 | 0.74262 | 30.5659 | 0.74912 | 31.4943 | 0.75552 | 32.4366 |
| 3/8 | 0.74282 | 30.5947 | 0.74932 | 31.5235 | 0.75572 | 32.4663 |
| 13/32 | 0.74303 | 30.6235 | 0.74952 | 31.5528 | 0.75591 | 32.4959 |
| 7/16 | 0.74323 | 30.6524 | 0.74972 | 31.5821 | 0.75611 | 32.5256 |
| 15/32 | 0.74344 | 30.6812 | 0.74992 | 31.6113 | 0.75631 | 32.5553 |
| 1/2 | 0.74364 | 30.7101 | 0.75012 | 31.6406 | 0.75651 | 32.5851 |
| 17/32 | 0.74384 | 30.7389 | 0.75032 | 31.6699 | 0.75671 | 32.6148 |
| 9/16 | 0.74405 | 30.7678 | 0.75052 | 31.6992 | 0.75691 | 32.6446 |
| 19/32 | 0.74425 | 30.7967 | 0.75073 | 31.7286 | 0.75710 | 32.6743 |
| 5/8 | 0.74446 | 30.8256 | 0.75093 | 31.7579 | 0.75730 | 32.7041 |
| 21/32 | 0.74466 | 30.8546 | 0.75113 | 31.7873 | 0.75750 | 32.7339 |
| 11/16 | 0.74486 | 30.8835 | 0.75133 | 31.8167 | 0.75770 | 32.7637 |
| 23/32 | 0.74507 | 30.9124 | 0.75153 | 31.8460 | 0.75789 | 32.7935 |
| 3/4 | 0.74527 | 30.9414 | 0.75173 | 31.8754 | 0.75809 | 32.8234 |
| 25/32 | 0.74547 | 30.9704 | 0.75193 | 31.9048 | 0.75829 | 32.8532 |
| 13/16 | 0.74568 | 30.9994 | 0.75213 | 31.9343 | 0.75849 | 32.8831 |
| 27/32 | 0.74588 | 31.0284 | 0.75233 | 31.9637 | 0.75868 | 32.9129 |
| 7/8 | 0.74608 | 31.0574 | 0.75253 | 31.9932 | 0.75888 | 32.9428 |
| 29/32 | 0.74629 | 31.0864 | 0.75273 | 32.0226 | 0.75908 | 32.9727 |
| 15/16 | 0.74649 | 31.1155 | 0.75293 | 32.0521 | 0.75927 | 33.0026 |
| 31/32 | 0.74669 | 31.1445 | 0.75313 | 32.0816 | 0.75947 | 33.0326 |
| 1 | 0.74689 | 31.1736 | 0.75333 | 32.1111 | 0.75967 | 33.0625 |

| Fractions of an Inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.75967 | 33.0625 | 0.76592 | 34.0278 | 0.77208 | 35.0069 |
| 1/32 | 0.75986 | 33.0925 | 0.76611 | 34.0582 | 0.77227 | 35.0378 |
| 1/16 | 0.76006 | 33.1224 | 0.76630 | 34.0886 | 0.77246 | 35.0686 |
| 3/32 | 0.76026 | 33.1524 | 0.76650 | 34.1190 | 0.77265 | 35.0995 |
| 1/8 | 0.76045 | 33.1824 | 0.76669 | 34.1494 | 0.77284 | 35.1303 |
| 5/32 | 0.76065 | 33.2124 | 0.76689 | 34.1799 | 0.77303 | 35.1612 |
| 3/16 | 0.76085 | 33.2424 | 0.76708 | 34.2103 | 0.77322 | 35.1921 |
| 7/32 | 0.76104 | 33.2725 | 0.76727 | 34.2408 | 0.77341 | 35.2230 |
| 1/4 | 0.76124 | 33.3025 | 0.76747 | 34.2713 | 0.77360 | 35.2539 |
| 9/32 | 0.76143 | 33.3326 | 0.76766 | 34.3018 | 0.77379 | 35.2848 |
| 5/16 | 0.76163 | 33.3627 | 0.76785 | 34.3323 | 0.77398 | 35.3158 |
| 11/32 | 0.76183 | 33.3927 | 0.76804 | 34.3628 | 0.77417 | 35.3467 |
| 3/8 | 0.76202 | 33.4229 | 0.76824 | 34.3933 | 0.77436 | 35.3777 |
| 13/32 | 0.76222 | 33.4530 | 0.76843 | 34.4239 | 0.77455 | 35.4087 |
| 7/16 | 0.76241 | 33.4831 | 0.76862 | 34.4545 | 0.77475 | 35.4397 |
| 15/32 | 0.76261 | 33.5132 | 0.76882 | 34.4850 | 0.77493 | 35.4707 |
| 1/2 | 0.76280 | 33.5434 | 0.76901 | 34.5156 | 0.77512 | 35.5017 |
| 17/32 | 0.76300 | 33.5736 | 0.76920 | 34.5462 | 0.77531 | 35.5328 |
| 9/16 | 0.76319 | 33.6038 | 0.76939 | 34.5769 | 0.77550 | 35.5638 |
| 19/32 | 0.76339 | 33.6340 | 0.76959 | 34.6075 | 0.77569 | 35.5949 |
| 5/8 | 0.76358 | 33.6642 | 0.76978 | 34.6381 | 0.77588 | 35.6260 |
| 21/32 | 0.76378 | 33.6944 | 0.76997 | 34.6688 | 0.77607 | 35.6571 |
| 11/16 | 0.76397 | 33.7246 | 0.77016 | 34.6995 | 0.77626 | 35.6882 |
| 23/32 | 0.76417 | 33.7549 | 0.77035 | 34.7302 | 0.77645 | 35.7193 |
| 3/4 | 0.76436 | 33.7852 | 0.77055 | 34.7609 | 0.77664 | 35.7504 |
| 25/32 | 0.76456 | 33.8154 | 0.77074 | 34.7916 | 0.77683 | 35.7816 |
| 13/16 | 0.76475 | 33.8457 | 0.77093 | 34.8223 | 0.77702 | 35.8127 |
| 27/32 | 0.76495 | 33.8760 | 0.77112 | 34.8530 | 0.77721 | 35.8439 |
| 7/8 | 0.76514 | 33.9064 | 0.77131 | 34.8838 | 0.77740 | 35.8751 |
| 29/32 | 0.76533 | 33.9367 | 0.77150 | 34.9146 | 0.77759 | 35.9063 |
| 15/16 | 0.76553 | 33.9670 | 0.77169 | 34.9453 | 0.77777 | 35.9375 |
| 31/32 | 0.76572 | 33.9974 | 0.77189 | 34.9761 | 0.77796 | 35.9688 |
| 1 | 0.76592 | 34.0278 | 0.77208 | 35.0069 | 0.77815 | 36.0000 |

| Fractions of an Inch. | 0" | | 1" | | 2" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.77815 | 36.0000 | 0.78414 | 37.0069 | 0.79005 | 38.0278 |
| 1/32 | 0.77834 | 36.0313 | 0.78433 | 37.0386 | 0.79023 | 38.0599 |
| 1/16 | 0.77853 | 36.0625 | 0.78451 | 37.0703 | 0.79042 | 38.0920 |
| 3/32 | 0.77872 | 36.0938 | 0.78470 | 37.1021 | 0.79060 | 38.1242 |
| 1/8 | 0.77890 | 36.1251 | 0.78488 | 37.1338 | 0.79078 | 38.1564 |
| 5/32 | 0.77909 | 36.1564 | 0.78507 | 37.1655 | 0.79097 | 38.1885 |
| 3/16 | 0.77928 | 36.1877 | 0.78526 | 37.1973 | 0.79115 | 38.2207 |
| 7/32 | 0.77947 | 36.2191 | 0.78544 | 37.2291 | 0.79133 | 38.2529 |
| 1/4 | 0.77966 | 36.2504 | 0.78563 | 37.2609 | 0.79152 | 38.2852 |
| 9/32 | 0.77984 | 36.2818 | 0.78581 | 37.2926 | 0.79170 | 38.3174 |
| 5/16 | 0.78003 | 36.3132 | 0.78600 | 37.3245 | 0.79188 | 38.3496 |
| 11/32 | 0.78022 | 36.3446 | 0.78618 | 37.3563 | 0.79206 | 38.3819 |
| 3/8 | 0.78041 | 36.3760 | 0.78637 | 37.3881 | 0.79225 | 38.4142 |
| 13/32 | 0.78059 | 36.4074 | 0.78655 | 37.4200 | 0.79243 | 38.4465 |
| 7/16 | 0.78078 | 36.4388 | 0.78674 | 37.4518 | 0.79261 | 38.4788 |
| 15/32 | 0.78097 | 36.4703 | 0.78692 | 37.4837 | 0.79279 | 38.5111 |
| 1/2 | 0.78116 | 36.5017 | 0.78711 | 37.5156 | 0.79298 | 38.5434 |
| 17/32 | 0.78134 | 36.5332 | 0.78729 | 37.5475 | 0.79316 | 38.5757 |
| 9/16 | 0.78153 | 36.5647 | 0.78748 | 37.5795 | 0.79334 | 38.6081 |
| 19/32 | 0.78172 | 36.5962 | 0.78766 | 37.6114 | 0.79352 | 38.6405 |
| 5/8 | 0.78190 | 36.6277 | 0.78784 | 37.6433 | 0.79370 | 38.6729 |
| 21/32 | 0.78209 | 36.6592 | 0.78803 | 37.6753 | 0.79388 | 38.7052 |
| 11/16 | 0.78228 | 36.6908 | 0.78821 | 37.7073 | 0.79407 | 38.7377 |
| 23/32 | 0.78247 | 36.7223 | 0.78840 | 37.7393 | 0.79425 | 38.7701 |
| 3/4 | 0.78265 | 36.7539 | 0.78858 | 37.7713 | 0.79443 | 38.8025 |
| 25/32 | 0.78284 | 36.7855 | 0.78876 | 37.8033 | 0.79461 | 38.8350 |
| 13/16 | 0.78302 | 36.8171 | 0.78895 | 37.8353 | 0.79479 | 38.8674 |
| 27/32 | 0.78321 | 36.8487 | 0.78913 | 37.8674 | 0.79497 | 38.8999 |
| 7/8 | 0.78340 | 36.8803 | 0.78932 | 37.8994 | 0.79516 | 38.9324 |
| 29/32 | 0.78358 | 36.9120 | 0.78950 | 37.9315 | 0.79534 | 38.9649 |
| 15/16 | 0.78377 | 36.9436 | 0.78968 | 37.9636 | 0.79552 | 38.9974 |
| 31/32 | 0.78396 | 36.9753 | 0.78987 | 37.9957 | 0.79570 | 39.0300 |
| 1 | 0.78414 | 37.0069 | 0.79005 | 38.0278 | 0.79588 | 39.0625 |

| Fractions of an inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.79588 | 39.0625 | 0.80163 | 40.1111 | 0.80731 | 41.1736 |
| 1/32 | 0.79606 | 39.0951 | 0.80181 | 40.1441 | 0.80749 | 41.2070 |
| 1/16 | 0.79624 | 39.1276 | 0.80199 | 40.1771 | 0.80766 | 41.2405 |
| 3/32 | 0.79642 | 39.1602 | 0.80217 | 40.2101 | 0.80784 | 41.2739 |
| 1/8 | 0.79660 | 39.1928 | 0.80235 | 40.2432 | 0.80801 | 41.3074 |
| 5/32 | 0.79678 | 39.2254 | 0.80252 | 40.2762 | 0.80819 | 41.3409 |
| 3/16 | 0.79696 | 39.2581 | 0.80270 | 40.3093 | 0.80837 | 41.3744 |
| 7/32 | 0.79714 | 39.2907 | 0.80288 | 40.3423 | 0.80854 | 41.4079 |
| 1/4 | 0.79733 | 39.3234 | 0.80306 | 40.3754 | 0.80872 | 41.4414 |
| 9/32 | 0.79751 | 39.3560 | 0.80324 | 40.4085 | 0.80889 | 41.4749 |
| 5/16 | 0.79769 | 39.3887 | 0.80341 | 40.4417 | 0.80907 | 41.5085 |
| 11/32 | 0.79787 | 39.4214 | 0.80359 | 40.4748 | 0.80924 | 41.5421 |
| 3/8 | 0.79805 | 39.4541 | 0.80377 | 40.5079 | 0.80942 | 41.5756 |
| 13/32 | 0.79823 | 39.4868 | 0.80395 | 40.5411 | 0.80959 | 41.6092 |
| 7/16 | 0.79841 | 39.5196 | 0.80413 | 40.5742 | 0.80977 | 41.6428 |
| 15/32 | 0.79859 | 39.5523 | 0.80430 | 40.6074 | 0.80995 | 41.6764 |
| 1/2 | 0.79877 | 39.5851 | 0.80448 | 40.6406 | 0.81012 | 41.7101 |
| 17/32 | 0.79895 | 39.6178 | 0.80466 | 40.6738 | 0.81030 | 41.7437 |
| 9/16 | 0.79913 | 39.6506 | 0.80483 | 40.7071 | 0.81047 | 41.7774 |
| 19/32 | 0.79930 | 39.6834 | 0.80501 | 40.7403 | 0.81065 | 41.8110 |
| 5/8 | 0.79948 | 39.7163 | 0.80519 | 40.7735 | 0.81082 | 41.8447 |
| 21/32 | 0.79966 | 39.7491 | 0.80537 | 40.8068 | 0.81100 | 41.8784 |
| 11/16 | 0.79984 | 39.7819 | 0.80554 | 40.8401 | 0.81117 | 41.9121 |
| 23/32 | 0.80002 | 39.8148 | 0.80572 | 40.8734 | 0.81134 | 41.9459 |
| 3/4 | 0.80020 | 39.8477 | 0.80590 | 40.9067 | 0.81152 | 41.9796 |
| 25/32 | 0.80038 | 39.8805 | 0.80607 | 40.9400 | 0.81169 | 42.0134 |
| 13/16 | 0.80056 | 39.9134 | 0.80625 | 40.9733 | 0.81187 | 42.0471 |
| 27/32 | 0.80074 | 39.9464 | 0.80643 | 41.0067 | 0.81204 | 42.0809 |
| 7/8 | 0.80092 | 39.9793 | 0.80660 | 41.0400 | 0.81222 | 42.1147 |
| 29/32 | 0.80110 | 40.0122 | 0.80678 | 41.0734 | 0.81239 | 42.1485 |
| 15/16 | 0.80128 | 40.0452 | 0.80696 | 41.1068 | 0.81257 | 42.1823 |
| 31/32 | 0.80145 | 40.0781 | 0.80713 | 41.1402 | 0.81274 | 42.2162 |
| 1 | 0.80163 | 40.1111 | 0.80731 | 41.1736 | 0.81291 | 42.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.81291 | 42.2500 | 0.81845 | 43.3403 | 0.82391 | 44.4444 |
| 1/32 | 0.81309 | 42.2839 | 0.81862 | 43.3746 | 0.82408 | 44.4792 |
| 1/16 | 0.81326 | 42.3177 | 0.81879 | 43.4089 | 0.82425 | 44.5139 |
| 3/32 | 0.81344 | 42.3516 | 0.81896 | 43.4432 | 0.82442 | 44.5487 |
| 1/8 | 0.81361 | 42.3855 | 0.81913 | 43.4775 | 0.82459 | 44.5834 |
| 5/32 | 0.81378 | 42.4194 | 0.81930 | 43.5119 | 0.82476 | 44.6182 |
| 3/16 | 0.81396 | 42.4534 | 0.81948 | 43.5463 | 0.82493 | 44.6530 |
| 7/32 | 0.81413 | 42.4873 | 0.81965 | 43.5806 | 0.82509 | 44.6878 |
| 1/4 | 0.81430 | 42.5213 | 0.81982 | 43.6150 | 0.82526 | 44.7227 |
| 9/32 | 0.81448 | 42.5552 | 0.81999 | 43.6494 | 0.82543 | 44.7575 |
| 5/16 | 0.81465 | 42.5892 | 0.82016 | 43.6838 | 0.82560 | 44.7923 |
| 11/32 | 0.81482 | 42.6232 | 0.82033 | 43.7183 | 0.82577 | 44.8272 |
| 3/8 | 0.81500 | 42.6572 | 0.82050 | 43.7527 | 0.82594 | 44.8621 |
| 13/32 | 0.81517 | 42.6913 | 0.82067 | 43.7872 | 0.82611 | 44.8970 |
| 7/16 | 0.81534 | 42.7253 | 0.82084 | 43.8216 | 0.82628 | 44.9319 |
| 15/32 | 0.81552 | 42.7593 | 0.82102 | 43.8561 | 0.82645 | 44.9668 |
| 1/2 | 0.81569 | 42.7934 | 0.82119 | 43.8906 | 0.82661 | 45.0017 |
| 17/32 | 0.81586 | 42.8275 | 0.82136 | 43.9251 | 0.82678 | 45.0367 |
| 9/16 | 0.81603 | 42.8616 | 0.82153 | 43.9597 | 0.82695 | 45.0716 |
| 19/32 | 0.81621 | 42.8957 | 0.82170 | 43.9942 | 0.82712 | 45.1066 |
| 5/8 | 0.81638 | 42.9298 | 0.82187 | 44.0288 | 0.82729 | 45.1416 |
| 21/32 | 0.81655 | 42.9639 | 0.82204 | 44.0633 | 0.82746 | 45.1766 |
| 11/16 | 0.81672 | 42.9981 | 0.82221 | 44.0979 | 0.82763 | 45.2116 |
| 23/32 | 0.81690 | 43.0322 | 0.82238 | 44.1325 | 0.82779 | 45.2466 |
| 3/4 | 0.81707 | 43.0664 | 0.82255 | 44.1671 | 0.82796 | 45.2817 |
| 25/32 | 0.81724 | 43.1006 | 0.82272 | 44.2017 | 0.82813 | 45.3167 |
| 13/16 | 0.81741 | 43.1348 | 0.82289 | 44.2364 | 0.82830 | 45.3518 |
| 27/32 | 0.81759 | 43.1690 | 0.82306 | 44.2710 | 0.82847 | 45.3869 |
| 7/8 | 0.81776 | 43.2032 | 0.82323 | 44.3057 | 0.82863 | 45.4220 |
| 29/32 | 0.81793 | 43.2375 | 0.82340 | 44.3403 | 0.82880 | 45.4571 |
| 15/16 | 0.81810 | 43.2717 | 0.82357 | 44.3750 | 0.82897 | 45.4922 |
| 31/32 | 0.81827 | 43.3060 | 0.82374 | 44.4097 | 0.82914 | 45.5274 |
| 1 | 0.81845 | 43.3403 | 0.82391 | 44.4444 | 0.82930 | 45.5625 |

| Fractions of an Inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.82930 | 45.5625 | 0.83463 | 46.6944 | 0.83990 | 47.8403 |
| 1/32 | 0.82947 | 45.5977 | 0.83480 | 46.7300 | 0.84006 | 47.8763 |
| 1/16 | 0.82964 | 45.6328 | 0.83496 | 46.7657 | 0.84022 | 47.9124 |
| 3/32 | 0.82981 | 45.6680 | 0.83513 | 46.8013 | 0.84039 | 47.9484 |
| 1/8 | 0.82997 | 45.7032 | 0.83529 | 46.8369 | 0.84055 | 47.9845 |
| 5/32 | 0.83014 | 45.7385 | 0.83546 | 46.8726 | 0.84071 | 48.0206 |
| 3/16 | 0.83031 | 45.7737 | 0.83562 | 46.9082 | 0.84088 | 48.0567 |
| 7/32 | 0.83048 | 45.8089 | 0.83579 | 46.9439 | 0.84104 | 48.0928 |
| 1/4 | 0.83064 | 45.8442 | 0.83595 | 46.9796 | 0.84120 | 48.1289 |
| 9/32 | 0.83081 | 45.8795 | 0.83612 | 47.0153 | 0.84137 | 48.1650 |
| 5/16 | 0.83098 | 45.9147 | 0.83628 | 47.0510 | 0.84153 | 48.2012 |
| 11/32 | 0.83114 | 45.9500 | 0.83645 | 47.0868 | 0.84169 | 48.2374 |
| 3/8 | 0.83131 | 45.9854 | 0.83661 | 47.1225 | 0.84185 | 48.2735 |
| 13/32 | 0.83148 | 46.0207 | 0.83678 | 47.1583 | 0.84202 | 48.3097 |
| 7/16 | 0.83164 | 46.0560 | 0.83694 | 47.1940 | 0.84218 | 48.3459 |
| 15/32 | 0.83181 | 46.0914 | 0.83711 | 47.2298 | 0.84234 | 48.3822 |
| 1/2 | 0.83198 | 46.1267 | 0.83727 | 47.2656 | 0.84251 | 48.4184 |
| 17/32 | 0.83214 | 46.1621 | 0.83744 | 47.3014 | 0.84267 | 48.4547 |
| 9/16 | 0.83231 | 46.1975 | 0.83760 | 47.3373 | 0.84283 | 48.4909 |
| 19/32 | 0.83248 | 46.2329 | 0.83777 | 47.3731 | 0.84299 | 48.5272 |
| 5/8 | 0.83264 | 46.2683 | 0.83793 | 47.4090 | 0.84315 | 48.5635 |
| 21/32 | 0.83281 | 46.3038 | 0.83809 | 47.4448 | 0.84332 | 48.5998 |
| 11/16 | 0.83297 | 46.3392 | 0.83826 | 47.4807 | 0.84348 | 48.6361 |
| 23/32 | 0.83314 | 46.3747 | 0.83842 | 47.5166 | 0.84364 | 48.6724 |
| 3/4 | 0.83331 | 46.4102 | 0.83859 | 47.5525 | 0.84380 | 48.7088 |
| 25/32 | 0.83347 | 46.4456 | 0.83875 | 47.5884 | 0.84397 | 48.7451 |
| 13/16 | 0.83364 | 46.4811 | 0.83891 | 47.6244 | 0.84413 | 48.7815 |
| 27/32 | 0.83380 | 46.5167 | 0.83908 | 47.6603 | 0.84429 | 48.8179 |
| 7/8 | 0.83397 | 46.5522 | 0.83924 | 47.6963 | 0.84445 | 48.8543 |
| 29/32 | 0.83414 | 46.5877 | 0.83941 | 47.7323 | 0.84461 | 48.8907 |
| 15/16 | 0.83430 | 46.6233 | 0.83957 | 47.7683 | 0.84477 | 48.9271 |
| 31/32 | 0.83447 | 46.6589 | 0.83973 | 47.8043 | 0.84494 | 48.9635 |
| 1 | 0.83463 | 46.6944 | 0.83990 | 47.8403 | 0.84510 | 49.0000 |

| Fractions of an inch. | 0" | | 1" | | 2" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.84510 | 49.0000 | 0.85024 | 50.1736 | 0.85532 | 51.3611 |
| 1/32 | 0.84526 | 49.0365 | 0.85040 | 50.2105 | 0.85547 | 51.3984 |
| 1/16 | 0.84542 | 49.0729 | 0.85056 | 50.2474 | 0.85563 | 51.4358 |
| 3/32 | 0.84558 | 49.1094 | 0.85072 | 50.2843 | 0.85579 | 51.4732 |
| 1/8 | 0.84574 | 49.1459 | 0.85088 | 50.3213 | 0.85595 | 51.5105 |
| 5/32 | 0.84591 | 49.1825 | 0.85104 | 50.3582 | 0.85611 | 51.5479 |
| 3/16 | 0.84607 | 49.2190 | 0.85119 | 50.3952 | 0.85626 | 51.5853 |
| 7/32 | 0.84623 | 49.2555 | 0.85135 | 50.4322 | 0.85642 | 51.6227 |
| 1/4 | 0.84639 | 49.2921 | 0.85151 | 50.4692 | 0.85658 | 51.6602 |
| 9/32 | 0.84655 | 49.3287 | 0.85167 | 50.5062 | 0.85674 | 51.6976 |
| 5/16 | 0.84671 | 49.3653 | 0.85183 | 50.5432 | 0.85689 | 51.7351 |
| 11/32 | 0.84687 | 49.4019 | 0.85199 | 50.5802 | 0.85705 | 51.7725 |
| 3/8 | 0.84703 | 49.4385 | 0.85215 | 50.6173 | 0.85721 | 51.8100 |
| 13/32 | 0.84719 | 49.4751 | 0.85231 | 50.6544 | 0.85736 | 51.8475 |
| 7/16 | 0.84735 | 49.5117 | 0.85247 | 50.6914 | 0.85752 | 51.8850 |
| 15/32 | 0.84751 | 49.5484 | 0.85263 | 50.7285 | 0.85768 | 51.9225 |
| 1/2 | 0.84768 | 49.5851 | 0.85278 | 50.7656 | 0.85783 | 51.9601 |
| 17/32 | 0.84784 | 49.6218 | 0.85294 | 50.8027 | 0.85799 | 51.9976 |
| 9/16 | 0.84800 | 49.6584 | 0.85310 | 50.8399 | 0.85815 | 52.0352 |
| 19/32 | 0.84816 | 49.6952 | 0.85326 | 50.8770 | 0.85831 | 52.0728 |
| 5/8 | 0.84832 | 49.7319 | 0.85342 | 50.9142 | 0.85846 | 52.1104 |
| 21/32 | 0.84848 | 49.7686 | 0.85358 | 50.9513 | 0.85862 | 52.1480 |
| 11/16 | 0.84864 | 49.8054 | 0.85374 | 50.9885 | 0.85878 | 52.1856 |
| 23/32 | 0.84880 | 49.8421 | 0.85389 | 51.0257 | 0.85893 | 52.2232 |
| 3/4 | 0.84896 | 49.8789 | 0.85405 | 51.0629 | 0.85909 | 52.2609 |
| 25/32 | 0.84912 | 49.9157 | 0.85421 | 51.1002 | 0.85924 | 52.2985 |
| 13/16 | 0.84928 | 49.9525 | 0.85437 | 51.1374 | 0.85940 | 52.3362 |
| 27/32 | 0.84944 | 49.9893 | 0.85453 | 51.1746 | 0.85956 | 52.3739 |
| 7/8 | 0.84960 | 50.0261 | 0.85469 | 51.2119 | 0.85971 | 52.4116 |
| 29/32 | 0.84976 | 50.0630 | 0.85484 | 51.2492 | 0.85987 | 52.4493 |
| 15/16 | 0.84992 | 50.0999 | 0.85500 | 51.2865 | 0.86003 | 52.4870 |
| 31/32 | 0.85008 | 50.1367 | 0.85516 | 51.3238 | 0.86018 | 52.5247 |
| 1 | 0.85024 | 50.1736 | 0.85532 | 51.3611 | 0.86034 | 52.5625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.86034 | 52.5625 | 0.86530 | 53.7778 | 0.87021 | 55.0069 |
| 1/32 | 0.86049 | 52.6003 | 0.86546 | 53.8160 | 0.87036 | 55.0456 |
| 1/16 | 0.86065 | 52.6380 | 0.86561 | 53.8542 | 0.87051 | 55.0842 |
| 3/32 | 0.86081 | 52.6758 | 0.86576 | 53.8924 | 0.87067 | 55.1229 |
| 1/8 | 0.86096 | 52.7137 | 0.86592 | 53.9307 | 0.87082 | 55.1616 |
| 5/32 | 0.86112 | 52.7515 | 0.86607 | 53.9689 | 0.87097 | 55.2003 |
| 3/16 | 0.86127 | 52.7893 | 0.86623 | 54.0072 | 0.87112 | 55.2390 |
| 7/32 | 0.86143 | 52.8272 | 0.86638 | 54.0455 | 0.87127 | 55.2777 |
| 1/4 | 0.86158 | 52.8650 | 0.86653 | 54.0838 | 0.87143 | 55.3164 |
| 9/32 | 0.86174 | 52.9029 | 0.86669 | 54.1221 | 0.87158 | 55.3552 |
| 5/16 | 0.86190 | 52.9408 | 0.86684 | 54.1604 | 0.87173 | 55.3939 |
| 11/32 | 0.86205 | 52.9787 | 0.86699 | 54.1987 | 0.87188 | 55.4327 |
| 3/8 | 0.86221 | 53.0166 | 0.86715 | 54.2371 | 0.87203 | 55.4715 |
| 13/32 | 0.86236 | 53.0545 | 0.86730 | 54.2755 | 0.87219 | 55.5103 |
| 7/16 | 0.86252 | 53.0925 | 0.86746 | 54.3138 | 0.87234 | 55.5491 |
| 15/32 | 0.86267 | 53.1304 | 0.86761 | 54.3522 | 0.87249 | 55.5879 |
| 1/2 | 0.86283 | 53.1684 | 0.86776 | 54.3906 | 0.87264 | 55.6267 |
| 17/32 | 0.86298 | 53.2064 | 0.86792 | 54.4290 | 0.87279 | 55.6656 |
| 9/16 | 0.86314 | 53.2444 | 0.86807 | 54.4675 | 0.87294 | 55.7045 |
| 19/32 | 0.86329 | 53.2824 | 0.86822 | 54.5059 | 0.87310 | 55.7433 |
| 5/8 | 0.86345 | 53.3204 | 0.86838 | 54.5444 | 0.87325 | 55.7822 |
| 21/32 | 0.86360 | 53.3585 | 0.86853 | 54.5829 | 0.87340 | 55.8211 |
| 11/16 | 0.86376 | 53.3965 | 0.86868 | 54.6213 | 0.87355 | 55.8601 |
| 23/32 | 0.86391 | 53.4346 | 0.86883 | 54.6598 | 0.87370 | 55.8990 |
| 3/4 | 0.86407 | 53.4727 | 0.86899 | 54.6984 | 0.87385 | 55.9379 |
| 25/32 | 0.86422 | 53.5107 | 0.86914 | 54.7369 | 0.87400 | 55.9769 |
| 13/16 | 0.86438 | 53.5489 | 0.86929 | 54.7754 | 0.87416 | 56.0159 |
| 27/32 | 0.86453 | 53.5870 | 0.86945 | 54.8140 | 0.87431 | 56.0549 |
| 7/8 | 0.86468 | 53.6251 | 0.86960 | 54.8525 | 0.87446 | 56.0939 |
| 29/32 | 0.86484 | 53.6633 | 0.86975 | 54.8911 | 0.87461 | 56.1329 |
| 15/16 | 0.86499 | 53.7014 | 0.86990 | 54.9297 | 0.87476 | 56.1719 |
| 31/32 | 0.86515 | 53.7396 | 0.87006 | 54.9683 | 0.87491 | 56.2109 |
| 1 | 0.86530 | 53.7778 | 0.87021 | 55.0069 | 0.87506 | 56.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.87506 | 56.2500 | 0.87986 | 57.5069 | 0.88461 | 58.7778 |
| 1/32 | 0.87521 | 56.2891 | 0.88001 | 57.5464 | 0.88475 | 58.8177 |
| 1/16 | 0.87536 | 56.3282 | 0.88016 | 57.5860 | 0.88490 | 58.8577 |
| 3/32 | 0.87551 | 56.3672 | 0.88031 | 57.6255 | 0.88505 | 58.8976 |
| 1/8 | 0.87566 | 56.4064 | 0.88046 | 57.6650 | 0.88520 | 58.9376 |
| 5/32 | 0.87581 | 56.4455 | 0.88061 | 57.7046 | 0.88534 | 58.9776 |
| 3/16 | 0.87597 | 56.4846 | 0.88075 | 57.7442 | 0.88549 | 59.0176 |
| 7/32 | 0.87612 | 56.5238 | 0.88090 | 57.7838 | 0.88564 | 59.0576 |
| 1/4 | 0.87627 | 56.5629 | 0.88105 | 57.8234 | 0.88579 | 59.0977 |
| 9/32 | 0.87642 | 56.6021 | 0.88120 | 57.8630 | 0.88593 | 59.1377 |
| 5/16 | 0.87657 | 56.6413 | 0.88135 | 57.9026 | 0.88608 | 59.1778 |
| 11/32 | 0.87672 | 56.6805 | 0.88150 | 57.9422 | 0.88623 | 59.2178 |
| 3/8 | 0.87687 | 56.7197 | 0.88165 | 57.9819 | 0.88637 | 59.2579 |
| 13/32 | 0.87702 | 56.7590 | 0.88179 | 58.0215 | 0.88652 | 59.2980 |
| 7/16 | 0.87717 | 56.7982 | 0.88194 | 58.0612 | 0.88667 | 59.3381 |
| 15/32 | 0.87732 | 56.8375 | 0.88209 | 58.1009 | 0.88681 | 59.3783 |
| 1/2 | 0.87747 | 56.8767 | 0.88224 | 58.1406 | 0.88696 | 59.4184 |
| 17/32 | 0.87762 | 56.9160 | 0.88239 | 58.1803 | 0.88711 | 59.4586 |
| 9/16 | 0.87777 | 56.9553 | 0.88254 | 58.2201 | 0.88725 | 59.4987 |
| 19/32 | 0.87792 | 56.9946 | 0.88268 | 58.2598 | 0.88740 | 59.5389 |
| 5/8 | 0.87807 | 57.0340 | 0.88283 | 58.2996 | 0.88755 | 59.5791 |
| 21/32 | 0.87822 | 57.0733 | 0.88298 | 58.3394 | 0.88769 | 59.6193 |
| 11/16 | 0.87837 | 57.1127 | 0.88313 | 58.3792 | 0.88784 | 59.6595 |
| 23/32 | 0.87852 | 57.1520 | 0.88328 | 58.4190 | 0.88799 | 59.6998 |
| 3/4 | 0.87867 | 57.1914 | 0.88342 | 58.4588 | 0.88813 | 59.7400 |
| 25/32 | 0.87881 | 57.2308 | 0.88357 | 58.4986 | 0.88828 | 59.7803 |
| 13/16 | 0.87896 | 57.2702 | 0.88372 | 58.5384 | 0.88843 | 59.8206 |
| 27/32 | 0.87911 | 57.3096 | 0.88387 | 58.5783 | 0.88857 | 59.8608 |
| 7/8 | 0.87926 | 57.3491 | 0.88402 | 58.6182 | 0.88872 | 59.9011 |
| 29/32 | 0.87941 | 57.3885 | 0.88416 | 58.6580 | 0.88886 | 59.9415 |
| 15/16 | 0.87956 | 57.4280 | 0.88431 | 58.6979 | 0.88901 | 59.9818 |
| 31/32 | 0.87971 | 57.4675 | 0.88446 | 58.7379 | 0.88916 | 60.0221 |
| 1 | 0.87986 | 57.5069 | 0.88461 | 58.7778 | 0.88930 | 60.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.88930 | 60.0625 | 0.89395 | 61.3611 | 0.89854 | 62.6736 |
| 1/32 | 0.88945 | 60.1029 | 0.89409 | 61.4019 | 0.89869 | 62.7149 |
| 1/16 | 0.88959 | 60.1433 | 0.89424 | 61.4427 | 0.89883 | 62.7561 |
| 3/32 | 0.88974 | 60.1837 | 0.89438 | 61.4836 | 0.89897 | 62.7974 |
| 1/8 | 0.88989 | 60.2241 | 0.89452 | 61.5244 | 0.89911 | 62.8387 |
| 5/32 | 0.89003 | 60.2645 | 0.89467 | 61.5653 | 0.89926 | 62.8799 |
| 3/16 | 0.89018 | 60.3049 | 0.89481 | 61.6061 | 0.89940 | 62.9213 |
| 7/32 | 0.89032 | 60.3454 | 0.89496 | 61.6470 | 0.89954 | 62.9626 |
| 1/4 | 0.89047 | 60.3859 | 0.89510 | 61.6879 | 0.89968 | 63.0039 |
| 9/32 | 0.89061 | 60.4263 | 0.89524 | 61.7288 | 0.89983 | 63.0453 |
| 5/16 | 0.89076 | 60.4668 | 0.89539 | 61.7698 | 0.89997 | 63.0866 |
| 11/32 | 0.89090 | 60.5073 | 0.89553 | 61.8107 | 0.90011 | 63.1280 |
| 3/8 | 0.89105 | 60.5479 | 0.89568 | 61.8517 | 0.90025 | 63.1694 |
| 13/32 | 0.89119 | 60.5884 | 0.89582 | 61.8926 | 0.90040 | 63.2108 |
| 7/16 | 0.89134 | 60.6289 | 0.89596 | 61.9336 | 0.90054 | 63.2522 |
| 15/32 | 0.89149 | 60.6695 | 0.89611 | 61.9746 | 0.90068 | 63.2936 |
| 1/2 | 0.89163 | 60.7101 | 0.89625 | 62.0156 | 0.90082 | 63.3351 |
| 17/32 | 0.89178 | 60.7507 | 0.89639 | 62.0566 | 0.90096 | 63.3765 |
| 9/16 | 0.89192 | 60.7913 | 0.89654 | 62.0977 | 0.90111 | 63.4180 |
| 19/32 | 0.89207 | 60.8319 | 0.89668 | 62.1387 | 0.90125 | 63.4595 |
| 5/8 | 0.89221 | 60.8725 | 0.89682 | 62.1798 | 0.90139 | 63.5010 |
| 21/32 | 0.89236 | 60.9131 | 0.89697 | 62.2209 | 0.90153 | 63.5425 |
| 11/16 | 0.89250 | 60.9538 | 0.89711 | 62.2620 | 0.90167 | 63.5840 |
| 23/32 | 0.89265 | 60.9945 | 0.89725 | 62.3031 | 0.90182 | 63.6255 |
| 3/4 | 0.89279 | 61.0352 | 0.89740 | 62.3442 | 0.90196 | 63.6671 |
| 25/32 | 0.89293 | 61.0759 | 0.89754 | 62.3853 | 0.90210 | 63.7087 |
| 13/16 | 0.89308 | 61.1166 | 0.89768 | 62.4265 | 0.90224 | 63.7502 |
| 27/32 | 0.89322 | 61.1573 | 0.89783 | 62.4676 | 0.90238 | 63.7918 |
| 7/8 | 0.89337 | 61.1980 | 0.89797 | 62.5088 | 0.90252 | 63.8334 |
| 29/32 | 0.89351 | 61.2388 | 0.89811 | 62.5500 | 0.90267 | 63.8751 |
| 15/16 | 0.89366 | 61.2795 | 0.89826 | 62.5912 | 0.90281 | 63.9167 |
| 31/32 | 0.89380 | 61.3203 | 0.89840 | 62.6324 | 0.90295 | 63.9583 |
| 1 | 0.89395 | 61.3611 | 0.89854 | 62.6736 | 0.90309 | 64.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.90309 | 64.0000 | 0.90759 | 65.3403 | 0.91204 | 66.6944 |
| 1/32 | 0.90323 | 64.0417 | 0.90773 | 65.3824 | 0.91218 | 66.7370 |
| 1/16 | 0.90337 | 64.0834 | 0.90787 | 65.4245 | 0.91232 | 66.7795 |
| 3/32 | 0.90351 | 64.1251 | 0.90801 | 65.4666 | 0.91246 | 66.8221 |
| 1/8 | 0.90366 | 64.1668 | 0.90815 | 65.5088 | 0.91260 | 66.8647 |
| 5/32 | 0.90380 | 64.2085 | 0.90829 | 65.5510 | 0.91274 | 66.9073 |
| 3/16 | 0.90394 | 64.2502 | 0.90843 | 65.5931 | 0.91287 | 66.9499 |
| 7/32 | 0.90408 | 64.2920 | 0.90857 | 65.6353 | 0.91301 | 66.9925 |
| 1/4 | 0.90422 | 64.3338 | 0.90871 | 65.6775 | 0.91315 | 67.0352 |
| 9/32 | 0.90436 | 64.3755 | 0.90885 | 65.7197 | 0.91329 | 67.0778 |
| 5/16 | 0.90450 | 64.4173 | 0.90899 | 65.7620 | 0.91343 | 67.1205 |
| 11/32 | 0.90464 | 64.4592 | 0.90913 | 65.8042 | 0.91357 | 67.1631 |
| 3/8 | 0.90478 | 64.5010 | 0.90927 | 65.8465 | 0.91370 | 67.2058 |
| 13/32 | 0.90492 | 64.5428 | 0.90941 | 65.8887 | 0.91384 | 67.2485 |
| 7/16 | 0.90506 | 64.5847 | 0.90954 | 65.9310 | 0.91398 | 67.2913 |
| 15/32 | 0.90521 | 64.6265 | 0.90968 | 65.9733 | 0.91412 | 67.3340 |
| 1/2 | 0.90535 | 64.6684 | 0.90982 | 66.0156 | 0.91425 | 67.3767 |
| 17/32 | 0.90549 | 64.7103 | 0.90996 | 66.0579 | 0.91439 | 67.4195 |
| 9/16 | 0.90563 | 64.7522 | 0.91010 | 66.1003 | 0.91453 | 67.4623 |
| 19/32 | 0.90577 | 64.7941 | 0.91024 | 66.1426 | 0.91467 | 67.5051 |
| 5/8 | 0.90591 | 64.8360 | 0.91038 | 66.1850 | 0.91481 | 67.5479 |
| 21/32 | 0.90605 | 64.8780 | 0.91052 | 66.2274 | 0.91494 | 67.5907 |
| 11/16 | 0.90619 | 64.9199 | 0.91066 | 66.2698 | 0.91508 | 67.6335 |
| 23/32 | 0.90633 | 64.9619 | 0.91080 | 66.3122 | 0.91522 | 67.6763 |
| 3/4 | 0.90647 | 65.0039 | 0.91094 | 66.3546 | 0.91536 | 67.7192 |
| 25/32 | 0.90661 | 65.0459 | 0.91107 | 66.3970 | 0.91549 | 67.7621 |
| 13/16 | 0.90675 | 65.0879 | 0.91121 | 66.4395 | 0.91563 | 67.8049 |
| 27/32 | 0.90689 | 65.1299 | 0.91135 | 66.4819 | 0.91577 | 67.8478 |
| 7/8 | 0.90703 | 65.1720 | 0.91149 | 66.5244 | 0.91591 | 67.8907 |
| 29/32 | 0.90717 | 65.2140 | 0.91163 | 66.5669 | 0.91604 | 67.9337 |
| 15/16 | 0.90731 | 65.2561 | 0.91177 | 66.6094 | 0.91618 | 67.9766 |
| 31/32 | 0.90745 | 65.2982 | 0.91191 | 66.6519 | 0.91632 | 68.0195 |
| 1 | 0.90759 | 65.3403 | 0.91204 | 66 6944 | 0.91645 | 68.0625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.91645 | 68.0625 | 0.92082 | 69.4444 | 0.92514 | 70.8403 |
| 1/32 | 0.91659 | 68.1055 | 0.92095 | 69.4879 | 0.92527 | 70.8841 |
| 1/16 | 0.91673 | 68.1485 | 0.92109 | 69.5313 | 0.92541 | 70.9280 |
| 3/32 | 0.91687 | 68.1915 | 0.92123 | 69.5747 | 0.92554 | 70.9718 |
| 1/8 | 0.91700 | 68.2345 | 0.92136 | 69.6182 | 0.92568 | 71.0157 |
| 5/32 | 0.91714 | 68.2775 | 0.92150 | 69.6616 | 0.92581 | 71.0596 |
| 3/16 | 0.91728 | 68.3206 | 0.92163 | 69.7051 | 0.92595 | 71.1035 |
| 7/32 | 0.91741 | 68.3636 | 0.92177 | 69.7486 | 0.92608 | 71.1475 |
| 1/4 | 0.91755 | 68.4067 | 0.92190 | 69.7921 | 0.92621 | 71.1914 |
| 9/32 | 0.91769 | 68.4498 | 0.92204 | 69.8356 | 0.92635 | 71.2354 |
| 5/16 | 0.91782 | 68.4929 | 0.92217 | 69.8792 | 0.92648 | 71.2793 |
| 11/32 | 0.91796 | 68.5360 | 0.92231 | 69.9227 | 0.92662 | 71.3233 |
| 3/8 | 0.91810 | 68.5791 | 0.92244 | 69.9663 | 0.92675 | 71.3673 |
| 13/32 | 0.91823 | 68.6222 | 0.92258 | 70.0098 | 0.92688 | 71.4113 |
| 7/16 | 0.91837 | 68.6654 | 0.92271 | 70.0534 | 0.92702 | 71.4553 |
| 15/32 | 0.91851 | 68.7086 | 0.92285 | 70.0970 | 0.92715 | 71.4994 |
| 1/2 | 0.91864 | 68.7517 | 0.92298 | 70.1406 | 0.92728 | 71.5434 |
| 17/32 | 0.91878 | 68.7949 | 0.92312 | 70.1843 | 0.92742 | 71.5875 |
| 9/16 | 0.91891 | 68.8381 | 0.92325 | 70.2279 | 0.92755 | 71.6315 |
| 19/32 | 0.91905 | 68.8814 | 0.92339 | 70.2715 | 0.92769 | 71.6756 |
| 5/8 | 0.91919 | 68.9246 | 0.92352 | 70.3152 | 0.92782 | 71.7197 |
| 21/32 | 0.91932 | 68.9678 | 0.92366 | 70.3589 | 0.92795 | 71.7638 |
| 11/16 | 0.91946 | 69.0111 | 0.92379 | 70.4026 | 0.92809 | 71.8080 |
| 23/32 | 0.91960 | 69.0544 | 0.92393 | 70.4463 | 0.92822 | 71.8521 |
| 3/4 | 0.91973 | 69.0977 | 0.92406 | 70.4900 | 0.92835 | 71.8963 |
| 25/32 | 0.91987 | 69.1410 | 0.92420 | 70.5338 | 0.92849 | 71.9404 |
| 13/16 | 0.92000 | 69.1843 | 0.92433 | 70.5775 | 0.92862 | 71.9846 |
| 27/32 | 0.92014 | 69.2276 | 0.92447 | 70.6213 | 0.92875 | 72.0288 |
| 7/8 | 0.92028 | 69.2709 | 0.92460 | 70.6650 | 0.92889 | 72.0730 |
| 29/32 | 0.92041 | 69.3143 | 0.92474 | 70.7088 | 0.92902 | 72.1172 |
| 15/16 | 0.92055 | 69.3577 | 0.92487 | 70.7526 | 0.92915 | 72.1615 |
| 31/32 | 0.92068 | 69.4010 | 0.92501 | 70.7964 | 0.92929 | 72.2057 |
| 1 | 0.92082 | 69.4444 | 0.92514 | 70.8403 | 0.92942 | 72.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.92942 | 72.2500 | 0.93366 | 73.6736 | 0.93785 | 75.1111 |
| 1/32 | 0.92955 | 72.2943 | 0.93379 | 73.7183 | 0.93798 | 75.1563 |
| 1/16 | 0.92968 | 72.3386 | 0.93392 | 73.7630 | 0.93811 | 75.2014 |
| 3/32 | 0.92982 | 72.3829 | 0.93405 | 73.8078 | 0.93824 | 75.2466 |
| 1/8 | 0.92995 | 72.4272 | 0.93418 | 73.8525 | 0.93837 | 75.2918 |
| 5/32 | 0.93008 | 72.4715 | 0.93431 | 73.8973 | 0.93850 | 75.3370 |
| 3/16 | 0.93022 | 72.5159 | 0.93445 | 73.9421 | 0.93863 | 75.3822 |
| 7/32 | 0.93035 | 72.5602 | 0.93458 | 73.9869 | 0.93876 | 75.4274 |
| 1/4 | 0.93048 | 72.6046 | 0.93471 | 74.0317 | 0.93889 | 75.4727 |
| 9/32 | 0.93061 | 72.6490 | 0.93484 | 74.0765 | 0.93903 | 75.5179 |
| 5/16 | 0.93075 | 72.6934 | 0.93497 | 74.1213 | 0.93916 | 75.5632 |
| 11/32 | 0.93088 | 72.7378 | 0.93510 | 74.1662 | 0.93929 | 75.6085 |
| 3/8 | 0.93101 | 72.7822 | 0.93523 | 74.2110 | 0.93942 | 75.6538 |
| 13/32 | 0.93115 | 72.8267 | 0.93537 | 74.2559 | 0.93955 | 75.6991 |
| 7/16 | 0.93128 | 72.8711 | 0.93550 | 74.3008 | 0.93968 | 75.7444 |
| 15/32 | 0.93141 | 72.9156 | 0.93563 | 74.3457 | 0.93981 | 75.7897 |
| 1/2 | 0.93154 | 72.9601 | 0.93576 | 74.3906 | 0.93994 | 75.8351 |
| 17/32 | 0.93168 | 73.0046 | 0.93589 | 74.4356 | 0.94006 | 75.8804 |
| 9/16 | 0.93181 | 73.0491 | 0.93602 | 74.4805 | 0.94019 | 75.9258 |
| 19/32 | 0.93194 | 73.0936 | 0.93615 | 74.5255 | 0.94032 | 75.9712 |
| 5/8 | 0.93207 | 73.1381 | 0.93628 | 74.5704 | 0.94045 | 76.0166 |
| 21/32 | 0.93220 | 73.1827 | 0.93641 | 74.6154 | 0.94058 | 76.0620 |
| 11/16 | 0.93234 | 73.2272 | 0.93655 | 74.6604 | 0.94071 | 76.1074 |
| 23/32 | 0.93247 | 73.2718 | 0.93668 | 74.7054 | 0.94084 | 76.1529 |
| 3/4 | 0.93260 | 73.3164 | 0.93681 | 74.7504 | 0.94097 | 76.1984 |
| 25/32 | 0.93273 | 73.3610 | 0.93694 | 74.7955 | 0.94110 | 76.2438 |
| 13/16 | 0.93286 | 73.4056 | 0.93707 | 74.8405 | 0.94123 | 76.2893 |
| 27/32 | 0.93300 | 73.4503 | 0.93720 | 74.8856 | 0.94136 | 76.3348 |
| 7/8 | 0.93313 | 73.4949 | 0.93733 | 74.9307 | 0.94149 | 76.3803 |
| 29/32 | 0.93326 | 73.5396 | 0.93746 | 74.9758 | 0.94162 | 76.4258 |
| 15/16 | 0.93339 | 73.5842 | 0.93759 | 75.0209 | 0.94175 | 76.4714 |
| 31/32 | 0.93352 | 73.6289 | 0.93772 | 75.0660 | 0.94188 | 76.5169 |
| 1 | 0.93366 | 73.6736 | 0.93785 | 75.1111 | 0.94201 | 76.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.94201 | 76.5625 | 0.94612 | 78.0278 | 0.95020 | 79.5069 |
| 1/32 | 0.94214 | 76.6081 | 0.94625 | 78.0738 | 0.95033 | 79.5534 |
| 1/16 | 0.94227 | 76.6537 | 0.94638 | 78.1198 | 0.95046 | 79.5999 |
| 3/32 | 0.94240 | 76.6993 | 0.94651 | 78.1659 | 0.95058 | 79.6463 |
| 1/8 | 0.94252 | 76.7449 | 0.94664 | 78.2119 | 0.95071 | 79.6928 |
| 5/32 | 0.94265 | 76.7905 | 0.94676 | 78.2580 | 0.95084 | 79.7393 |
| 3/16 | 0.94278 | 76.8362 | 0.94689 | 78.3041 | 0.95096 | 79.7858 |
| 7/32 | 0.94291 | 76.8818 | 0.94702 | 78.3502 | 0.95109 | 79.8324 |
| 1/4 | 0.94304 | 76.9275 | 0.94715 | 78.3963 | 0.95122 | 79.8789 |
| 9/32 | 0.94317 | 76.9732 | 0.94728 | 78.4424 | 0.95134 | 79.9255 |
| 5/16 | 0.94330 | 77.0189 | 0.94740 | 78.4885 | 0.95147 | 79.9720 |
| 11/32 | 0.94343 | 77.0646 | 0.94753 | 78.5347 | 0.95160 | 80.0186 |
| 3/8 | 0.94356 | 77.1104 | 0.94766 | 78.5808 | 0.95172 | 80.0652 |
| 13/32 | 0.94369 | 77.1561 | 0.94779 | 78.6270 | 0.95185 | 80.1118 |
| 7/16 | 0.94381 | 77.2018 | 0.94791 | 78.6732 | 0.95197 | 80.1584 |
| 15/32 | 0.94394 | 77.2476 | 0.94804 | 78.7194 | 0.95210 | 80.2051 |
| 1/2 | 0.94407 | 77.2934 | 0.94817 | 78.7656 | 0.95223 | 80.2517 |
| 17/32 | 0.94420 | 77.3392 | 0.94830 | 78.8119 | 0.95235 | 80.2984 |
| 9/16 | 0.94433 | 77.3850 | 0.94842 | 78.8581 | 0.95248 | 80.3451 |
| 19/32 | 0.94446 | 77.4308 | 0.94855 | 78.9044 | 0.95261 | 80.3918 |
| 5/8 | 0.94459 | 77.4767 | 0.94868 | 78.9506 | 0.95273 | 80.4385 |
| 21/32 | 0.94471 | 77.5225 | 0.94881 | 78.9969 | 0.95286 | 80.4852 |
| 11/16 | 0.94484 | 77.5684 | 0.94893 | 79.0432 | 0.95298 | 80.5319 |
| 23/32 | 0.94497 | 77.6143 | 0.94906 | 79.0895 | 0.95311 | 80.5787 |
| 3/4 | 0.94510 | 77.6602 | 0.94919 | 79.1359 | 0.95324 | 80.6254 |
| 25/32 | 0.94523 | 77.7061 | 0.94931 | 79.1822 | 0.95336 | 80.6722 |
| 13/16 | 0.94536 | 77.7520 | 0.94944 | 79.2285 | 0.95349 | 80.7190 |
| 27/32 | 0.94548 | 77.7979 | 0.94957 | 79.2749 | 0.95361 | 80.7658 |
| 7/8 | 0.94561 | 77.8439 | 0.94969 | 79.3213 | 0.95374 | 80.8126 |
| 29/32 | 0.94574 | 77.8898 | 0.94982 | 79.3677 | 0.95387 | 80.8594 |
| 15/16 | 0.94587 | 77.9358 | 0.94995 | 79.4141 | 0.95399 | 80.9063 |
| 31/32 | 0.94600 | 77.9818 | 0.95008 | 79.4605 | 0.95412 | 80.9531 |
| 1 | 0.94612 | 78.0278 | 0.95020 | 79.5069 | 0.95424 | 81.0000 |

| Fractions of an Inch. | 0" | | 1" | | 2" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.95424 | 81.0000 | 0.95825 | 82.5069 | 0.96221 | 84.0278 |
| 1/32 | 0.95437 | 81.0469 | 0.95837 | 82.5543 | 0.96233 | 84.0755 |
| 1/16 | 0.95449 | 81.0938 | 0.95849 | 82.6016 | 0.96246 | 84.1233 |
| 3/32 | 0.95462 | 81.1407 | 0.95862 | 82.6489 | 0.96258 | 84.1711 |
| 1/8 | 0.95474 | 81.1876 | 0.95874 | 82.6963 | 0.96270 | 84.2189 |
| 5/32 | 0.95487 | 81.2345 | 0.95887 | 82.7437 | 0.96283 | 84.2667 |
| 3/16 | 0.95500 | 81.2815 | 0.95899 | 82.7910 | 0.96295 | 84.3145 |
| 7/32 | 0.95512 | 81.3285 | 0.95912 | 82.8384 | 0.96307 | 84.3623 |
| 1/4 | 0.95525 | 81.3754 | 0.95924 | 82.8859 | 0.96320 | 84.4102 |
| 9/32 | 0.95537 | 81.4224 | 0.95936 | 82.9333 | 0.96332 | 84.4580 |
| 5/16 | 0.95550 | 81.4694 | 0.95949 | 82.9807 | 0.96344 | 84.5059 |
| 11/32 | 0.95562 | 81.5164 | 0.95961 | 83.0282 | 0.96357 | 84.5538 |
| 3/8 | 0.95575 | 81.5635 | 0.95974 | 83.0756 | 0.96369 | 84.6017 |
| 13/32 | 0.95587 | 81.6105 | 0.95986 | 83.1231 | 0.96381 | 84.6496 |
| 7/16 | 0.95600 | 81.6576 | 0.95998 | 83.1706 | 0.96394 | 84.6975 |
| 15/32 | 0.95612 | 81.7047 | 0.96011 | 83.2181 | 0.96406 | 84.7454 |
| 1/2 | 0.95625 | 81.7517 | 0.96023 | 83.2656 | 0.96418 | 84.7934 |
| 17/32 | 0.95637 | 81.7988 | 0.96036 | 83.3132 | 0.96430 | 84.8414 |
| 9/16 | 0.95650 | 81.8459 | 0.96048 | 83.3607 | 0.96443 | 84.8894 |
| 19/32 | 0.95662 | 81.8931 | 0.96060 | 83.4083 | 0.96455 | 84.9373 |
| 5/8 | 0.95675 | 81.9402 | 0.96073 | 83.4558 | 0.96467 | 84.9854 |
| 21/32 | 0.95687 | 81.9874 | 0.96085 | 83.5034 | 0.96479 | 85.0334 |
| 11/16 | 0.95700 | 82.0345 | 0.96098 | 83.5510 | 0.96492 | 85.0814 |
| 23/32 | 0.95712 | 82.0817 | 0.96110 | 83.5986 | 0.96504 | 85.1295 |
| 3/4 | 0.95725 | 82.1289 | 0.96122 | 83.6463 | 0.96516 | 85.1775 |
| 25/32 | 0.95737 | 82.1761 | 0.96135 | 83.6939 | 0.96529 | 85.2256 |
| 13/16 | 0.95750 | 82.2233 | 0.96147 | 83.7416 | 0.96541 | 85.2737 |
| 27/32 | 0.95762 | 82.2706 | 0.96159 | 83.7892 | 0.96553 | 85.3218 |
| 7/8 | 0.95775 | 82.3178 | 0.96172 | 83.8369 | 0.96565 | 85.3699 |
| 29/32 | 0.95787 | 82.3651 | 0.96184 | 83.8846 | 0.96577 | 85.4180 |
| 15/16 | 0.95800 | 82.4124 | 0.96196 | 83.9323 | 0.96590 | 85.4662 |
| 31/32 | 0.95812 | 82.4596 | 0.96209 | 83.9800 | 0.96602 | 85.5143 |
| 1 | 0.95825 | 82.5069 | 0.96221 | 84.0278 | 0.96614 | 85.5625 |

| Fractions of an inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.96614 | 85.5625 | 0.97004 | 87.1111 | 0.97390 | 88.6736 |
| 1/32 | 0.96626 | 85.6107 | 0.97016 | 87.1597 | 0.97402 | 88.7227 |
| 1/16 | 0.96639 | 85.6589 | 0.97028 | 87.2084 | 0.97414 | 88.7717 |
| 3/32 | 0.96651 | 85.7071 | 0.97040 | 87.2570 | 0.97426 | 88,8208 |
| 1/8 | 0.96663 | 85.7553 | 0.97052 | 87.3057 | 0.97438 | 88.8699 |
| 5/32 | 0.96675 | 85.8036 | 0.97064 | 87.3543 | 0.97450 | 88.9190 |
| 3/16 | 0.96687 | 85.8518 | 0.97076 | 87.4030 | 0.97462 | 88.9681 |
| 7/32 | 0.96700 | 85.9001 | 0.97088 | 87.4517 | 0.97474 | 89.0173 |
| 1/4 | 0.96712 | 85.9484 | 0.97101 | 87.5004 | 0.97486 | 89.0664 |
| 9/32 | 0.96724 | 85.9966 | 0.97113 | 87.5492 | 0.97498 | 89.1156 |
| 5/16 | 0.96736 | 86.0449 | 0.97125 | 87.5979 | 0.97510 | 89.1647 |
| 11/32 | 0.96748 | 86.0933 | 0.97137 | 87.6467 | 0.97522 | 89.2139 |
| 3/8 | 0.96761 | 86.1416 | 0.97149 | 87.6954 | 0.97534 | 89.2631 |
| 13/32 | 0.96773 | 86.1899 | 0.97161 | 87.7442 | 0.97546 | 89.3123 |
| 7/16 | 0.96785 | 86.2383 | 0.97173 | 87.7930 | 0.97558 | 89.3616 |
| 15/32 | 0.96797 | 86.2867 | 0.97185 | 87.8418 | 0.97570 | 89.4108 |
| 1/2 | 0.96809 | 86.3351 | 0.97197 | 87.8906 | 0.97581 | 89.4601 |
| 17/32 | 0.96822 | 86.3835 | 0.97209 | 87.9395 | 0.97593 | 89.5093 |
| 9/16 | 0.96834 | 86.4319 | 0.97221 | 87.9883 | 0.97605 | 89.5586 |
| 19/32 | 0.96846 | 86.4803 | 0.97233 | 88.0372 | 0.97617 | 89.6079 |
| 5/8 | 0.96858 | 86.5288 | 0.97245 | 88.0860 | 0.97629 | 89.6572 |
| 21/32 | 0.96870 | 86.5772 | 0.97257 | 88.1349 | 0.97641 | 89.7065 |
| 11/16 | 0.96882 | 86.6257 | 0.97269 | 88.1838 | 0.97653 | 89.7559 |
| 23/32 | 0.96894 | 86.6742 | 0.97281 | 88.2328 | 0.97665 | 89.8052 |
| 3/4 | 0.96907 | 86.7227 | 0.97294 | 88.2817 | 0.97677 | 89.8546 |
| 25/32 | 0.96919 | 86.7712 | 0.97306 | 88.3306 | 0.97689 | 89.9040 |
| 13/16 | 0.96931 | 86.8197 | 0.97318 | 88.3796 | 0.97701 | 89.9534 |
| 27/32 | 0.96943 | 86.8682 | 0.97330 | 88.4286 | 0.97713 | 90.0028 |
| 7/8 | 0.96955 | 86.9168 | 0.97342 | 88.4775 | 0.97725 | 90.0522 |
| 29/32 | 0.96967 | 86.9653 | 0.97354 | 88.5265 | 0.97737 | 90.1016 |
| 15/16 | 0.96979 | 87.0139 | 0.97366 | 88.5755 | 0.97749 | 90.1511 |
| 31/32 | 0.96992 | 87.0625 | 0.97378 | 88.6246 | 0.97760 | 90.2005 |
| 1 | 0.97004 | 87.1111 | 0.97390 | 88.6736 | 0.97772 | 90.2500 |

| Fractions of an Inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.97772 | 90.2500 | 0.98152 | 91.8403 | 0.98528 | 93.4444 |
| 1/32 | 0.97784 | 90.2995 | 0.98163 | 91.8902 | 0.98539 | 93.4948 |
| 1/16 | 0.97796 | 90.3490 | 0.98175 | 91.9401 | 0.98551 | 93.5452 |
| 3/32 | 0.97808 | 90.3985 | 0.98187 | 91.9901 | 0.98563 | 93.5955 |
| 1/8 | 0.97820 | 90.4480 | 0.98199 | 92.0400 | 0.98574 | 93.6459 |
| 5/32 | 0.97832 | 90.4976 | 0.98211 | 92.0900 | 0.98586 | 93.6963 |
| 3/16 | 0.97844 | 90.5471 | 0.98222 | 92.1400 | 0.98598 | 93.7468 |
| 7/32 | 0.97856 | 90.5967 | 0.98234 | 92.1900 | 0.98609 | 93.7972 |
| 1/4 | 0.97867 | 90.6463 | 0.98246 | 92.2400 | 0.98621 | 93.8477 |
| 9/32 | 0.97879 | 90.6959 | 0.98258 | 92.2900 | 0.98633 | 93.8981 |
| 5/16 | 0.97891 | 90.7455 | 0.98270 | 92.3401 | 0.98645 | 93.9486 |
| 11/32 | 0.97903 | 90.7951 | 0.98281 | 92.3901 | 0.98656 | 93.9991 |
| 3/8 | 0.97915 | 90.8447 | 0.98293 | 92.4402 | 0.98668 | 94.0496 |
| 13/32 | 0.97927 | 90.8944 | 0.98305 | 92.4903 | 0.98680 | 94.1001 |
| 7/16 | 0.97939 | 90.9440 | 0.98317 | 92.5404 | 0.98691 | 94.1506 |
| 15/32 | 0.97951 | 90.9937 | 0.98328 | 92.5905 | 0.98703 | 94.2012 |
| 1/2 | 0.97962 | 91.0434 | 0.98340 | 92.6406 | 0.98714 | 94.2517 |
| 17/32 | 0.97974 | 91.0931 | 0.98352 | 92.6908 | 0.98726 | 94.3023 |
| 9/16 | 0.97986 | 91.1428 | 0.98364 | 92.7409 | 0.98738 | 94.3529 |
| 19/32 | 0.97998 | 91.1926 | 0.98375 | 92.7911 | 0.98749 | 94.4035 |
| 5/8 | 0.98010 | 91.2423 | 0.98387 | 92.8413 | 0.98761 | 94.4541 |
| 21/32 | 0.98022 | 91.2921 | 0.98399 | 92.8914 | 0.98773 | 94.5047 |
| 11/16 | 0.98033 | 91.3418 | 0.98411 | 92.9417 | 0.98784 | 94.5554 |
| 23/32 | 0.98045 | 91.3916 | 0.98422 | 92.9919 | 0.98796 | 94.6060 |
| 3/4 | 0.98057 | 91.4414 | 0.98434 | 93.0421 | 0.98808 | 94.6567 |
| 25/32 | 0.98069 | 91.4912 | 0.98446 | 93.0923 | 0.98819 | 94.7074 |
| 13/16 | 0.98081 | 91.5410 | 0.98457 | 93.1426 | 0.98831 | 94.7581 |
| 27/32 | 0.98093 | 91.5909 | 0.98469 | 93.1929 | 0.98842 | 94.8088 |
| 7/8 | 0.98104 | 91.6407 | 0.98481 | 93.2432 | 0.98854 | 94.8595 |
| 29/32 | 0.98116 | 91.6906 | 0.98493 | 93.2935 | 0.98866 | 94.9102 |
| 15/16 | 0.98128 | 91.7405 | 0.98504 | 93.3438 | 0.98877 | 94.9610 |
| 31/32 | 0.98140 | 91.7904 | 0.98516 | 93.3941 | 0.98889 | 95.0117 |
| 1 | 0.98152 | 91.8403 | 0.98528 | 93.4444 | 0.98900 | 95.0625 |

| Fractions of an Inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 0.98900 | 95.0625 | 0.99270 | 96.6944 | 0.99637 | 98.3403 |
| 1/32 | 0.98912 | 95.1133 | 0.99282 | 96.7457 | 0.99648 | 98.3919 |
| 1/16 | 0.98924 | 95.1641 | 0.99293 | 96.7969 | 0.99659 | 98.4436 |
| 3/32 | 0.98935 | 95.2149 | 0.99305 | 96.8482 | 0.99671 | 98.4953 |
| 1/8 | 0.98947 | 95.2657 | 0.99316 | 96.8994 | 0.99682 | 98.5470 |
| 5/32 | 0.98958 | 95.3166 | 0.99328 | 96.9507 | 0.99694 | 98.5987 |
| 3/16 | 0.98970 | 95.3674 | 0.99339 | 97.0020 | 0.99705 | 98.6504 |
| 7/32 | 0.98982 | 95.4183 | 0.99351 | 97.0533 | 0.99716 | 98.7022 |
| 1/4 | 0.98993 | 95.4692 | 0.99362 | 97.1046 | 0.99728 | 98.7539 |
| 9/32 | 0.99005 | 95.5201 | 0.99373 | 97.1559 | 0.99739 | 98.8057 |
| 5/16 | 0.99016 | 95.5710 | 0.99385 | 97.2073 | 0.99750 | 98.8574 |
| 11/32 | 0.99028 | 95.6219 | 0.99396 | 97.2586 | 0.99762 | 98.9092 |
| 3/8 | 0.99039 | 95.6729 | 0.99408 | 97.3100 | 0.99773 | 98.9610 |
| 13/32 | 0.99051 | 95.7238 | 0.99419 | 97.3614 | 0.99785 | 99.0129 |
| 7/16 | 0.99063 | 95.7748 | 0.99431 | 97.4128 | 0.99796 | 99.0647 |
| 15/32 | 0.99074 | 95.8257 | 0.99442 | 97.4642 | 0.99807 | 99.1165 |
| 1/2 | 0.99086 | 95.8767 | 0.99454 | 97.5156 | 0.99819 | 99.1684 |
| 17/32 | 0.99097 | 95.9277 | 0.99465 | 97.5671 | 0.99830 | 99.2203 |
| 9/16 | 0.99109 | 95.9788 | 0.99477 | 97.6185 | 0.99841 | 99.2722 |
| 19/32 | 0.99120 | 96.0298 | 0.99488 | 97.6700 | 0.99853 | 99.3241 |
| 5/8 | 0.99132 | 96.0808 | 0.99499 | 97.7215 | 0.99864 | 99.3760 |
| 21/32 | 0.99143 | 96.1319 | 0.99511 | 97.7730 | 0.99875 | 99.4279 |
| 11/16 | 0.99155 | 96.1830 | 0.99522 | 97.8245 | 0.99887 | 99.4798 |
| 23/32 | 0.99166 | 96.2341 | 0.99534 | 97.8760 | 0.99898 | 99.5318 |
| 3/4 | 0.99178 | 96.2852 | 0.99545 | 97.9275 | 0.99909 | 99.5838 |
| 25/32 | 0.99189 | 96.3363 | 0.99557 | 97.9791 | 0.99921 | 99.6357 |
| 13/16 | 0.99201 | 96.3874 | 0.99568 | 98.0306 | 0.99932 | 99.6877 |
| 27/32 | 0.99213 | 96.4385 | 0.99580 | 98.0822 | 0.99943 | 99.7398 |
| 7/8 | 0.99224 | 96.4897 | 0.99591 | 98.1338 | 0.99955 | 99.7918 |
| 29/32 | 0.99236 | 96.5409 | 0.99602 | 98.1854 | 0.99966 | 99.8438 |
| 15/16 | 0.99247 | 96.5920 | 0.99614 | 98.2370 | 0.99977 | 99.8959 |
| 31/32 | 0.99259 | 96.6432 | 0.99625 | 98.2886 | 0.99989 | 99.9479 |
| 1 | 0.99270 | 96.6944 | 0.99637 | 98.3403 | 1.00000 | 100.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.00000 | 100.0000 | 1.00360 | 101.6736 | 1.00718 | 103.3611 |
| 1/32 | 1.00011 | 100.0521 | 1.00372 | 101.7261 | 1.00729 | 103.4141 |
| 1/16 | 1.00023 | 100.1042 | 1.00383 | 101.7787 | 1.00740 | 103.4670 |
| 3/32 | 1.00034 | 100.1563 | 1.00394 | 101.8312 | 1.00751 | 103.5200 |
| 1/8 | 1.00045 | 100.2084 | 1.00405 | 101.8838 | 1.00762 | 103.5730 |
| 5/32 | 1.00057 | 100.2606 | 1.00416 | 101.9364 | 1.00773 | 103.6260 |
| 3/16 | 1.00068 | 100.3127 | 1.00428 | 101.9890 | 1.00785 | 103.6791 |
| 7/32 | 1.00079 | 100.3649 | 1.00439 | 102.0416 | 1.00796 | 103.7321 |
| 1/4 | 1.00090 | 100.4171 | 1.00450 | 102.0942 | 1.00807 | 103.7852 |
| 9/32 | 1.00102 | 100.4693 | 1.00461 | 102.1468 | 1.00818 | 103.8382 |
| 5/16 | 1.00113 | 100.5215 | 1.00472 | 102.1995 | 1.00829 | 103.8913 |
| 11/32 | 1.00124 | 100.5737 | 1.00484 | 102.2521 | 1.00840 | 103.9444 |
| 3/8 | 1.00136 | 100.6260 | 1.00495 | 102.3048 | 1.00851 | 103.9975 |
| 13/32 | 1.00147 | 100.6782 | 1.00506 | 102.3575 | 1.00862 | 104.0506 |
| 7/16 | 1.00158 | 100.7305 | 1.00517 | 102.4102 | 1.00873 | 104.1038 |
| 15/32 | 1.00169 | 100.7828 | 1.00528 | 102.4629 | 1.00884 | 104.1569 |
| 1/2 | 1.00181 | 100.8351 | 1.00540 | 102.5156 | 1.00895 | 104.2101 |
| 17/32 | 1.00192 | 100.8874 | 1.00551 | 102.5684 | 1.00907 | 104.2632 |
| 9/16 | 1.00203 | 100.9397 | 1.00562 | 102.6211 | 1.00918 | 104.3164 |
| 19/32 | 1.00214 | 100.9920 | 1.00573 | 102.6739 | 1.00929 | 104.3696 |
| 5/8 | 1.00226 | 101.0444 | 1.00584 | 102.7267 | 1.00940 | 104.4229 |
| 21/32 | 1.00237 | 101.0967 | 1.00595 | 102.7795 | 1.00951 | 104.4761 |
| 11/16 | 1.00248 | 101.1491 | 1.00606 | 102.8323 | 1.00962 | 104.5293 |
| 23/32 | 1.00259 | 101.2015 | 1.00618 | 102.8851 | 1.00973 | 104.5826 |
| 3/4 | 1.00271 | 101.2539 | 1.00629 | 102.9379 | 1.00984 | 104.6359 |
| 25/32 | 1.00282 | 101.3063 | 1.00640 | 102.9908 | 1.00995 | 104.6891 |
| 13/16 | 1.00293 | 101.3588 | 1.00651 | 103.0436 | 1.01006 | 104.7424 |
| 27/32 | 1.00304 | 101.4112 | 1.00662 | 103.0965 | 1.01017 | 104.7957 |
| 7/8 | 1.00316 | 101.4636 | 1.00673 | 103.1494 | 1.01028 | 104.8491 |
| 29/32 | 1.00327 | 101.5161 | 1.00684 | 103.2023 | 1.01039 | 104.9024 |
| 15/16 | 1.00338 | 101.5686 | 1.00696 | 103.2552 | 1.01050 | 104.9558 |
| 31/32 | 1.00349 | 101.6211 | 1.00707 | 103.3082 | 1.01061 | 105.0091 |
| 1 | 1.00360 | 101.6736 | 1.00718 | 103.3611 | 1.01072 | 105.0625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.01072 | 105.0625 | 1.01424 | 106.7778 | 1.01773 | 108.5069 |
| 1/32 | 1.01083 | 105.1159 | 1.01435 | 106.8316 | 1.01784 | 108.5612 |
| 1/16 | 1.01094 | 105.1693 | 1.01446 | 106.8854 | 1.01795 | 108.6155 |
| 3/32 | 1.01105 | 105.2227 | 1.01457 | 106.9393 | 1.01805 | 108.6698 |
| 1/8 | 1.01116 | 105.2762 | 1.01468 | 106.9932 | 1.01816 | 108.7241 |
| 5/32 | 1.01128 | 105.3296 | 1.01479 | 107.0470 | 1.01827 | 108.7784 |
| 3/16 | 1.01139 | 105.3831 | 1.01490 | 107.1009 | 1.01838 | 108.8327 |
| 7/32 | 1.01150 | 105.4365 | 1.01501 | 107.1548 | 1.01849 | 108.8871 |
| 1/4 | 1.01161 | 105.4900 | 1.01512 | 107.2088 | 1.01860 | 108.9414 |
| 9/32 | 1.01172 | 105.5435 | 1.01522 | 107.2627 | 1.01870 | 108.9958 |
| 5/16 | 1.01183 | 105.5970 | 1.01533 | 107.3167 | 1.01881 | 109.0502 |
| 11/32 | 1.01194 | 105.6506 | 1.01544 | 107.3706 | 1.01892 | 109.1046 |
| 3/8 | 1.01205 | 105.7041 | 1.01555 | 107.4246 | 1.01903 | 109.1590 |
| 13/32 | 1.01216 | 105.7577 | 1.01566 | 107.4786 | 1.01914 | 109.2134 |
| 7/16 | 1.01227 | 105.8112 | 1.01577 | 107.5326 | 1.01925 | 109.2678 |
| 15/32 | 1.01238 | 105.8648 | 1.01588 | 107.5866 | 1.01935 | 109.3223 |
| 1/2 | 1.01249 | 105.9184 | 1.01599 | 107.6406 | 1.01946 | 109.3767 |
| 17/32 | 1.01260 | 105.9720 | 1.01610 | 107.6947 | 1.01957 | 109.4312 |
| 9/16 | 1.01271 | 106.0256 | 1.01621 | 107.7487 | 1.01968 | 109.4857 |
| 19/32 | 1.01282 | 106.0793 | 1.01632 | 107.8028 | 1.01979 | 109.5402 |
| 5/8 | 1.01293 | 106.1329 | 1.01642 | 107.8569 | 1.01989 | 109.5947 |
| 21/32 | 1.01303 | 106.1866 | 1.01653 | 107.9110 | 1.02000 | 109.6493 |
| 11/16 | 1.01314 | 106.2403 | 1.01664 | 107.9651 | 1.02011 | 109.7038 |
| 23/32 | 1.01325 | 106.2940 | 1.01675 | 108.0192 | 1.02022 | 109.7584 |
| 3/4 | 1.01336 | 106.3477 | 1.01686 | 108.0734 | 1.02033 | 109.8129 |
| 25/32 | 1.01347 | 106.4014 | 1.01697 | 108.1275 | 1.02043 | 109.8675 |
| 13/16 | 1.01358 | 106.4551 | 1.01708 | 108.1817 | 1.02054 | 109.9221 |
| 27/32 | 1.01369 | 106.5088 | 1.01719 | 108.2358 | 1.02065 | 109.9767 |
| 7/8 | 1.01380 | 106.5626 | 1.01729 | 108.2900 | 1.02076 | 110.0314 |
| 29/32 | 1.01391 | 106.6164 | 1.01740 | 108.3442 | 1.02087 | 110.0860 |
| 15/16 | 1.01402 | 106.6702 | 1.01751 | 108.3985 | 1.02097 | 110.1407 |
| 31/32 | 1.01413 | 106.7240 | 1.01762 | 108.4527 | 1.02108 | 110.1953 |
| 1 | 1.01424 | 106.7778 | 1.01773 | 108.5069 | 1.02119 | 110.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.02119 | 110.2500 | 1.02462 | 112.0069 | 1.02803 | 113.7778 |
| 1/32 | 1.02130 | 110.3047 | 1.02473 | 112.0621 | 1.02813 | 113.8333 |
| 1/16 | 1.02140 | 110.3594 | 1.02484 | 112.1172 | 1.02824 | 113.8889 |
| 3/32 | 1.02151 | 110.4141 | 1.02494 | 112.1724 | 1.02835 | 113.9445 |
| 1/8 | 1.02162 | 110.4689 | 1.02505 | 112.2275 | 1.02845 | 114.0001 |
| 5/32 | 1.02173 | 110.5236 | 1.02516 | 112.2827 | 1.02856 | 114.0557 |
| 3/16 | 1.02184 | 110.5784 | 1.02526 | 112.3379 | 1.02866 | 114.1114 |
| 7/32 | 1.02194 | 110.6331 | 1.02537 | 112.3931 | 1.02877 | 114.1670 |
| 1/4 | 1.02205 | 110.6879 | 1.02548 | 112.4484 | 1.02888 | 114.2227 |
| 9/32 | 1.02216 | 110.7427 | 1.02558 | 112.5036 | 1.02898 | 114.2783 |
| 5/16 | 1.02227 | 110.7976 | 1.02569 | 112.5588 | 1.02909 | 114.3340 |
| 11/32 | 1.02237 | 110.8524 | 1.02580 | 112.6141 | 1.02919 | 114.3897 |
| 3/8 | 1.02248 | 110.9072 | 1.02590 | 112.6694 | 1.02930 | 114.4454 |
| 13/32 | 1.02259 | 110.9621 | 1.02601 | 112.7247 | 1.02940 | 114.5011 |
| 7/16 | 1.02269 | 111.0170 | 1.02612 | 112.7800 | 1.02951 | 114.5569 |
| 15/32 | 1.02280 | 111.0718 | 1.02622 | 112.8353 | 1.02962 | 114.6126 |
| 1/2 | 1.02291 | 111.1267 | 1.02633 | 112.8906 | 1.02972 | 114.6684 |
| 17/32 | 1.02302 | 111.1816 | 1.02644 | 112.9460 | 1.02983 | 114.7242 |
| 9/16 | 1.02312 | 111.2366 | 1.02654 | 113.0013 | 1.02993 | 114.7800 |
| 19/32 | 1.02323 | 111.2915 | 1.02665 | 113.0567 | 1.03004 | 114.8358 |
| 5/8 | 1.02334 | 111.3465 | 1.02675 | 113.1121 | 1.03014 | 114.8916 |
| 21/32 | 1 02345 | 111.4014 | 1.02686 | 113.1675 | 1.03025 | 114.9474 |
| 11/16 | 1.02355 | 111.4564 | 1.02697 | 113.2229 | 1.03036 | 115.0033 |
| 23/32 | 1.02366 | 111.5114 | 1.02707 | 113.2783 | 1.03046 | 115.0591 |
| 3/4 | 1.02377 | 111.5664 | 1.02718 | 113.3338 | 1.03057 | 115.1150 |
| 25/32 | 1.02387 | 111.6214 | 1.02729 | 113.3892 | 1.03067 | 115.1709 |
| 13/16 | 1.02398 | 111.6765 | 1.02739 | 113.4447 | 1.03078 | 115.2268 |
| 27/32 | 1.02409 | 111.7315 | 1.02750 | 113.5002 | 1.03088 | 115.2827 |
| 7/8 | 1.02419 | 111.7866 | 1.02760 | 113.5557 | 1.03099 | 115.3386 |
| 29/32 | 1.02430 | 111.8416 | 1.02771 | 113.6112 | 1.03109 | 115.3946 |
| 15/16 | 1.02441 | 111.8967 | 1.02782 | 113.6667 | 1.03120 | 115.4505 |
| 31/32 | 1.02452 | 111.9518 | 1.02792 | 113.7222 | 1.03130 | 115.5065 |
| 1 | 1.02462 | 112.0069 | 1.02803 | 113.7778 | 1.03141 | 115.5625 |

| Fractions of an inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.03141 | 115.5625 | 1.03476 | 117.3611 | 1.03809 | 119.1736 |
| 1/32 | 1.03151 | 115.6185 | 1.03487 | 117.4175 | 1.03819 | 119.2305 |
| 1/16 | 1.03162 | 115.6745 | 1.03497 | 117.4740 | 1.03830 | 119.2874 |
| 3/32 | 1.03172 | 115.7305 | 1.03508 | 117.5304 | 1.03840 | 119.3442 |
| 1/8 | 1.03183 | 115.7866 | 1.03518 | 117.5869 | 1.03850 | 119.4012 |
| 5/32 | 1.03193 | 115.8426 | 1.03528 | 117.6434 | 1.03861 | 119.4581 |
| 3/16 | 1.03204 | 115.8987 | 1.03539 | 117.6999 | 1.03871 | 119.5150 |
| 7/32 | 1.03214 | 115.9548 | 1.03549 | 117.7564 | 1.03881 | 119.5719 |
| 1/4 | 1.03225 | 116.0109 | 1.03560 | 117.8129 | 1.03892 | 119.6289 |
| 9/32 | 1.03235 | 116.0670 | 1.03570 | 117.8695 | 1.03902 | 119.6859 |
| 5/16 | 1.03246 | 116.1231 | 1.03580 | 117.9260 | 1.03912 | 119.7429 |
| 11/32 | 1.03256 | 116.1792 | 1.03591 | 117.9826 | 1.03923 | 119.7999 |
| 3/8 | 1.03267 | 116.2354 | 1.03601 | 118.0392 | 1.03933 | 119.8569 |
| 13/32 | 1.03277 | 116.2915 | 1.03612 | 118.0958 | 1.03943 | 119.9139 |
| 7/16 | 1.03288 | 116.3477 | 1.03622 | 118.1524 | 1.03954 | 119.9709 |
| 15/32 | 1.03298 | 116.4039 | 1.03633 | 118.2090 | 1.03964 | 120.0280 |
| 1/2 | 1.03309 | 116.4601 | 1.03643 | 118.2656 | 1.03974 | 120.0851 |
| 17/32 | 1.03319 | 116.5163 | 1.03653 | 118.3223 | 1.03985 | 120.1422 |
| 9/16 | 1.03330 | 116.5725 | 1.03664 | 118.3789 | 1.03995 | 120.1992 |
| 19/32 | 1.03340 | 116.6288 | 1.03674 | 118.4356 | 1.04005 | 120.2564 |
| 5/8 | 1.03351 | 116.6850 | 1.03685 | 118.4923 | 1.04016 | 120.3135 |
| 21/32 | 1.03361 | 116.7413 | 1.03695 | 118.5490 | 1.04026 | 120.3706 |
| 11/16 | 1.03372 | 116.7976 | 1.03705 | 118.6057 | 1.04036 | 120.4278 |
| 23/32 | 1.03382 | 116.8538 | 1.03716 | 118.6624 | 1.04047 | 120.4849 |
| 3/4 | 1.03393 | 116.9102 | 1.03726 | 118.7192 | 1.04057 | 120.5421 |
| 25/32 | 1.03403 | 116.9665 | 1.03736 | 118.7759 | 1.04067 | 120.5993 |
| 13/16 | 1.03414 | 117.0228 | 1.03747 | 118.8327 | 1.04078 | 120.6565 |
| 27/32 | 1.03424 | 117.0792 | 1.03757 | 118.8895 | 1.04088 | 120.7137 |
| 7/8 | 1.03434 | 117.1355 | 1.03768 | 118.9463 | 1.04098 | 120.7709 |
| 29/32 | 1.03445 | 117.1919 | 1.03778 | 119.0031 | 1.04108 | 120.8282 |
| 15/16 | 1.03455 | 117.2483 | 1.03788 | 119.0599 | 1.04119 | 120.8854 |
| 31/32 | 1.03466 | 117.3047 | 1.03799 | 119.1168 | 1.04129 | 120.9427 |
| 1 | 1.03476 | 117.3611 | 1.03809 | 119.1736 | 1.04139 | 121.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.04139 | 121.0000 | 1.04467 | 122.8403 | 1.04792 | 124.6944 |
| 1/32 | 1.04150 | 121.0573 | 1.04477 | 122.8980 | 1.04802 | 124.7526 |
| 1/16 | 1.04160 | 121.1146 | 1.04487 | 122.9558 | 1.04813 | 124.8108 |
| 3/32 | 1.04170 | 121.1719 | 1.04498 | 123.0135 | 1.04823 | 124.8690 |
| 1/8 | 1.04180 | 121.2293 | 1.04508 | 123.0713 | 1.04833 | 124.9272 |
| 5/32 | 1.04191 | 121.2866 | 1.04518 | 123.1291 | 1.04843 | 124.9854 |
| 3/16 | 1.04201 | 121.3440 | 1.04528 | 123.1869 | 1.04853 | 125.0436 |
| 7/32 | 1.04211 | 121.4014 | 1.04538 | 123.2447 | 1.04863 | 125.1019 |
| 1/4 | 1.04221 | 121.4588 | 1.04549 | 123.3025 | 1.04873 | 125.1602 |
| 9/32 | 1.04232 | 121.5162 | 1.04559 | 123.3604 | 1.04883 | 125.2184 |
| 5/16 | 1.04242 | 121.5736 | 1.04569 | 123.4182 | 1.04894 | 125.2767 |
| 11/32 | 1.04252 | 121.6310 | 1.04579 | 123.4761 | 1.04904 | 125.3350 |
| 3/8 | 1.04262 | 121.6885 | 1.04589 | 123.5340 | 1.04914 | 125.3933 |
| 13/32 | 1.04273 | 121.7459 | 1.04599 | 123.5919 | 1.04924 | 125.4517 |
| 7/16 | 1.04283 | 121.8034 | 1.04610 | 123.6498 | 1.04934 | 125.5100 |
| 15/32 | 1.04293 | 121.8609 | 1.04620 | 123.7077 | 1.04944 | 125.5684 |
| 1/2 | 1.04303 | 121.9184 | 1.04630 | 123.7656 | 1.04954 | 125.6267 |
| 17/32 | 1.04314 | 121.9759 | 1.04640 | 123.8236 | 1.04964 | 125.6851 |
| 9/16 | 1.04324 | 122.0334 | 1.04650 | 123.8815 | 1.04974 | 125.7435 |
| 19/32 | 1.04334 | 122.0910 | 1.04660 | 123.9395 | 1.04984 | 125.8019 |
| 5/8 | 1.04344 | 122.1485 | 1.04671 | 123.9975 | 1.04994 | 125.8604 |
| 21/32 | 1.04355 | 122.2061 | 1.04681 | 124.0555 | 1.05005 | 125.9188 |
| 11/16 | 1.04365 | 122.2637 | 1.04691 | 124.1135 | 1.05015 | 125.9772 |
| 23/32 | 1.04375 | 122.3213 | 1.04701 | 124.1716 | 1.05025 | 126.0357 |
| 3/4 | 1.04385 | 122.3789 | 1.04711 | 124.2296 | 1.05035 | 126.0942 |
| 25/32 | 1.04396 | 122.4365 | 1.04721 | 124.2877 | 1.05045 | 126.1527 |
| 13/16 | 1.04406 | 122.4942 | 1.04732 | 124.3457 | 1.05055 | 126.2112 |
| 27/32 | 1.04416 | 122.5518 | 1.04742 | 124.4038 | 1.05065 | 126.2697 |
| 7/8 | 1.04426 | 122.6095 | 1.04752 | 124.4619 | 1.05075 | 126.3282 |
| 29/32 | 1.04436 | 122.6672 | 1.04762 | 124.5200 | 1.05085 | 126.3868 |
| 15/16 | 1.04447 | 122.7249 | 1.04772 | 124.5782 | 1.05095 | 126.4453 |
| 31/32 | 1.04457 | 122.7826 | 1.04782 | 124.6363 | 1.05105 | 126.5039 |
| 1 | 1.04467 | 122.8403 | 1.04792 | 124.6944 | 1.05115 | 126.5625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.05115 | 126.5625 | 1.05436 | 128.4444 | 1.05754 | 130.3403 |
| 1/32 | 1.05125 | 126.6211 | 1.05446 | 128.5035 | 1.05764 | 130.3997 |
| 1/16 | 1.05135 | 126.6797 | 1.05456 | 128.5625 | 1.05774 | 130.4592 |
| 3/32 | 1.05145 | 126.7383 | 1.05466 | 128.6216 | 1.05784 | 130.5187 |
| 1/8 | 1.05155 | 126.7970 | 1.05476 | 128.6807 | 1.05794 | 130.5782 |
| 5/32 | 1.05165 | 126.8556 | 1.05486 | 128.7398 | 1.05803 | 130.6378 |
| 3/16 | 1.05176 | 126.9143 | 1.05496 | 128.7989 | 1.05813 | 130.6973 |
| 7/32 | 1.05186 | 126.9730 | 1.05506 | 128.8580 | 1.05823 | 130.7568 |
| 1/4 | 1.05196 | 127.0317 | 1.05516 | 128.9171 | 1.05833 | 130.8164 |
| 9/32 | 1.05206 | 127.0904 | 1.05525 | 128.9762 | 1.05843 | 130.8760 |
| 5/16 | 1.05216 | 127.1491 | 1.05535 | 129.0354 | 1.05853 | 130.9356 |
| 11/32 | 1.05226 | 127.2079 | 1.05545 | 129.0946 | 1.05863 | 130.9952 |
| 3/8 | 1.05236 | 127.2666 | 1.05555 | 129.1538 | 1.05873 | 131.0548 |
| 13/32 | 1.05246 | 127.3254 | 1.05565 | 129.2130 | 1.05883 | 131.1144 |
| 7/16 | 1.05256 | 127.3841 | 1.05575 | 129.2722 | 1.05892 | 131.1741 |
| 15/32 | 1.05266 | 127.4429 | 1.05585 | 129.3314 | 1.05902 | 131.2337 |
| 1/2 | 1.05276 | 127.5017 | 1.05595 | 129.3906 | 1.05912 | 131.2934 |
| 17/32 | 1.05286 | 127.5606 | 1.05605 | 129.4499 | 1.05922 | 131.3531 |
| 9/16 | 1.05296 | 127.6194 | 1.05615 | 129.5091 | 1.05932 | 131.4128 |
| 19/32 | 1.05306 | 127.6782 | 1.05625 | 129.5684 | 1.05942 | 131.4725 |
| 5/8 | 1.05316 | 127.7371 | 1.05635 | 129.6277 | 1.05952 | 131.5322 |
| 21/32 | 1.05326 | 127.7960 | 1.05645 | 129.6870 | 1.05961 | 131.5920 |
| 11/16 | 1.05336 | 127.8548 | 1.05655 | 129.7463 | 1.05971 | 131.6517 |
| 23/32 | 1.05346 | 127.9137 | 1.05665 | 129.8057 | 1.05981 | 131.7115 |
| 3/4 | 1.05356 | 127.9727 | 1.05675 | 129.8650 | 1.05991 | 131.7713 |
| 25/32 | 1.05366 | 128.0316 | 1.05685 | 129.9244 | 1.06001 | 131.8311 |
| 13/16 | 1.05376 | 128.0905 | 1.05694 | 129.9838 | 1.06011 | 131.8909 |
| 27/32 | 1.05386 | 128.1495 | 1.05704 | 130.0431 | 1.06021 | 131.9507 |
| 7/8 | 1.05396 | 128.2084 | 1.05714 | 130.1025 | 1.06030 | 132.0105 |
| 29/32 | 1.05406 | 128.2674 | 1.05724 | 130.1620 | 1.06040 | 132.0704 |
| 15/16 | 1.05416 | 128.3264 | 1.05734 | 130.2214 | 1.06050 | 132.1302 |
| 31/32 | 1.05426 | 128.3854 | 1.05744 | 130.2808 | 1.06060 | 132.1901 |
| 1 | 1.05436 | 128.4444 | 1.05754 | 130.3403 | 1.06070 | 132.2500 |

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| Fractions of an Inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.06070 | 132.2500 | 1.06383 | 134.1736 | 1.06695 | 136.1111 |
| 1/32 | 1.06080 | 132.3099 | 1.06393 | 134.2339 | 1.06704 | 136.1719 |
| 1/16 | 1.06089 | 132.3698 | 1.06403 | 134.2943 | 1.06714 | 136.2327 |
| 3/32 | 1.06099 | 132.4297 | 1.06413 | 134.3547 | 1.06724 | 136.2935 |
| 1/8 | 1.06109 | 132.4897 | 1.06422 | 134.4150 | 1.06733 | 136.3543 |
| 5/32 | 1.06119 | 132.5496 | 1.06432 | 134.4754 | 1.06743 | 136.4151 |
| 3/16 | 1.06129 | 132.6096 | 1.06442 | 134.5358 | 1.06753 | 136.4759 |
| 7/32 | 1.06139 | 132.6696 | 1.06452 | 134.5963 | 1.06762 | 136.5368 |
| 1/4 | 1.06148 | 132.7296 | 1.06461 | 134.6567 | 1.06772 | 136.5977 |
| 9/32 | 1.06158 | 132.7896 | 1.06471 | 134.7171 | 1.06782 | 136.6585 |
| 5/16 | 1.06168 | 132.8496 | 1.06481 | 134.7776 | 1.06792 | 136.7194 |
| 11/32 | 1.06178 | 132.9097 | 1.06491 | 134.8381 | 1.06801 | 136.7803 |
| 3/8 | 1.06188 | 132.9697 | 1.06500 | 134.8985 | 1.06811 | 136.8413 |
| 13/32 | 1.06197 | 133.0298 | 1.06510 | 134.9590 | 1.06821 | 136.9022 |
| 7/16 | 1.06207 | 133.0899 | 1.06520 | 135.0196 | 1.06830 | 136.9631 |
| 15/32 | 1.06217 | 133.1500 | 1.06530 | 135.0801 | 1.06840 | 137.0241 |
| 1/2 | 1.06227 | 133.2101 | 1.06539 | 135.1406 | 1.06850 | 137.0851 |
| 17/32 | 1.06237 | 133.2702 | 1.06549 | 135.2012 | 1.06859 | 137.1461 |
| 9/16 | 1.06246 | 133.3303 | 1.06559 | 135.2617 | 1.06869 | 137.2071 |
| 19/32 | 1.06256 | 133.3905 | 1.06568 | 135.3223 | 1.06878 | 137.2681 |
| 5/8 | 1.06266 | 133.4506 | 1.06578 | 135.3829 | 1.06888 | 137.3291 |
| 21/32 | 1.06276 | 133.5108 | 1.06588 | 135.4435 | 1.06898 | 137.3901 |
| 11/16 | 1.06286 | 133.5710 | 1.06598 | 135.5042 | 1.06907 | 137.4512 |
| 23/32 | 1.06295 | 133.6312 | 1.06607 | 135.5648 | 1.06917 | 137.5123 |
| 3/4 | 1.06305 | 133.6914 | 1.06617 | 135.6254 | 1.06927 | 137.5734 |
| 25/32 | 1.06315 | 133.7516 | 1.06627 | 135.6861 | 1.06936 | 137.6344 |
| 13/16 | 1.06325 | 133.8119 | 1.06636 | 135.7468 | 1.06946 | 137.6956 |
| 27/32 | 1.06335 | 133.8721 | 1.06646 | 135.8075 | 1.06956 | 137.7567 |
| 7/8 | 1.06344 | 133.9324 | 1.06656 | 135.8682 | 1.06965 | 137.8178 |
| 29/32 | 1.06354 | 133.9927 | 1.06666 | 135.9289 | 1.06975 | 137.8790 |
| 15/16 | 1.06364 | 134.0530 | 1.06675 | 135.9896 | 1.06985 | 137.9401 |
| 31/32 | 1.06374 | 134.1133 | 1.06685 | 136.0504 | 1.06994 | 138.0013 |
| 1 | 1.06383 | 134.1736 | 1.06695 | 136.1111 | 1.07004 | 138.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.07004 | 138.0625 | 1.07311 | 140.0278 | 1.07615 | 142.0069 |
| 1/32 | 1.07013 | 138.1237 | 1.07320 | 140.0894 | 1.07625 | 142.0690 |
| 1/16 | 1.07023 | 138.1849 | 1.07330 | 140.1511 | 1.07634 | 142.1311 |
| 3/32 | 1.07033 | 138.2462 | 1.07339 | 140.2127 | 1.07644 | 142.1932 |
| 1/8 | 1.07042 | 138.3074 | 1.07349 | 140.2744 | 1.07653 | 142.2553 |
| 5/32 | 1.07052 | 138.3687 | 1.07358 | 140.3361 | 1.07663 | 142.3174 |
| 3/16 | 1.07062 | 138.4299 | 1.07368 | 140.3978 | 1.07672 | 142.3796 |
| 7/32 | 1.07071 | 138.4912 | 1.07378 | 140.4595 | 1.07682 | 142.4417 |
| 1/4 | 1.07081 | 138.5525 | 1.07387 | 140.5213 | 1.07691 | 142.5039 |
| 9/32 | 1.07090 | 138.6138 | 1.07397 | 140.5830 | 1.07701 | 142.5661 |
| 5/16 | 1.07100 | 138.6752 | 1.07406 | 140.6448 | 1.07710 | 142.6283 |
| 11/32 | 1.07110 | 138.7365 | 1.07416 | 140.7065 | 1.07720 | 142.6905 |
| 3/8 | 1.07119 | 138.7979 | 1.07425 | 140.7683 | 1.07729 | 142.7527 |
| 13/32 | 1.07129 | 138.8592 | 1.07435 | 140.8301 | 1.07739 | 142.8149 |
| 7/16 | 1.07138 | 138.9206 | 1.07444 | 140.8920 | 1.07748 | 142.8772 |
| 15/32 | 1.07148 | 138.9820 | 1.07454 | 140.9538 | 1.07758 | 142.9395 |
| 1/2 | 1.07158 | 139.0434 | 1.07463 | 141.0156 | 1.07767 | 143.0017 |
| 17/32 | 1.07167 | 139.1048 | 1.07473 | 141.0775 | 1.07777 | 143.0640 |
| 9/16 | 1.07177 | 139.1663 | 1.07482 | 141.1394 | 1.07786 | 143.1263 |
| 19/32 | 1.07186 | 139.2277 | 1.07492 | 141.2012 | 1.07795 | 143.1886 |
| 5/8 | 1.07196 | 139.2892 | 1.07501 | 141.2631 | 1.07805 | 143.2510 |
| 21/32 | 1.07205 | 139.3506 | 1.07511 | 141.3250 | 1.07814 | 143.3133 |
| 11/16 | 1.07215 | 139.4121 | 1.07520 | 141.3870 | 1.07824 | 143.3757 |
| 23/32 | 1.07225 | 139.4736 | 1.07530 | 141.4489 | 1.07833 | 143.4380 |
| 3/4 | 1.07234 | 139.5352 | 1.07539 | 141.5109 | 1.07843 | 143.5004 |
| 25/32 | 1.07244 | 139.5967 | 1.07549 | 141.5728 | 1.07852 | 143.5628 |
| 13/16 | 1.07253 | 139.6582 | 1.07558 | 141.6348 | 1.07862 | 143.6252 |
| 27/32 | 1.07263 | 139.7198 | 1.07568 | 141.6968 | 1.07871 | 143.6877 |
| 7/8 | 1.07272 | 139.7814 | 1.07577 | 141.7588 | 1.07880 | 143.7501 |
| 29/32 | 1.07282 | 139.8429 | 1.07587 | 141.8208 | 1.07890 | 143.8126 |
| 15/16 | 1.07292 | 139.9045 | 1.07596 | 141.8828 | 1.07899 | 143.8750 |
| 31/32 | 1.07301 | 139.9662 | 1.07606 | 141.9449 | 1.07909 | 143.9375 |
| 1 | 1.07311 | 140.0278 | 1.07615 | 142.0069 | 1.07918 | 144.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.07918 | 144.0000 | 1.08219 | 146.0069 | 1.08517 | 148.0278 |
| 1/32 | 1.07928 | 144.0625 | 1.08228 | 146.0699 | 1.08526 | 148.0912 |
| 1/16 | 1.07937 | 144.1250 | 1.08237 | 146.1328 | 1.08536 | 148.1545 |
| 3/32 | 1.07946 | 144.1876 | 1.08247 | 146.1958 | 1.08545 | 148.2179 |
| 1/8 | 1.07956 | 144.2501 | 1.08256 | 146.2588 | 1.08554 | 148.2814 |
| 5/32 | 1.07965 | 144.3127 | 1.08265 | 146.3218 | 1.08564 | 148.3448 |
| 3/16 | 1.07975 | 144.3752 | 1.08275 | 146.3848 | 1.08573 | 148.4082 |
| 7/32 | 1.07984 | 144.4378 | 1.08284 | 146.4478 | 1.08582 | 148.4717 |
| 1/4 | 1.07993 | 144.5004 | 1.08293 | 146.5109 | 1.08591 | 148.5352 |
| 9/32 | 1.08003 | 144.5630 | 1.08303 | 146.5739 | 1.08601 | 148.5986 |
| 5/16 | 1.08012 | 144.6257 | 1.08312 | 146.6370 | 1.08610 | 148.6621 |
| 11/32 | 1.08022 | 144.6883 | 1.08322 | 146.7000 | 1.08619 | 148.7256 |
| 3/8 | 1.08031 | 144.7510 | 1.08331 | 146.7631 | 1.08629 | 148.7892 |
| 13/32 | 1.08040 | 144.8136 | 1.08340 | 146.8262 | 1.08638 | 148.8527 |
| 7/16 | 1.08050 | 144.8763 | 1.08350 | 146.8893 | 1.08647 | 148.9163 |
| 15/32 | 1.08059 | 144.9390 | 1.08359 | 146.9525 | 1.08656 | 148.9798 |
| 1/2 | 1.08069 | 145.0017 | 1.08368 | 147.0156 | 1.08666 | 149.0434 |
| 17/32 | 1.08078 | 145.0645 | 1.08378 | 147.0788 | 1.08675 | 149.1070 |
| 9/16 | 1.08087 | 145.1272 | 1.08387 | 147.1420 | 1.08684 | 149.1706 |
| 19/32 | 1.08097 | 145.1899 | 1.08396 | 147.2051 | 1.08693 | 149.2342 |
| 5/8 | 1.08106 | 145.2527 | 1.08405 | 147.2683 | 1.08703 | 149.2979 |
| 21/32 | 1.08116 | 145.3155 | 1.08415 | 147.3315 | 1.08712 | 149.3615 |
| 11/16 | 1.08125 | 145.3783 | 1.08424 | 147.3948 | 1.08721 | 149.4252 |
| 23/32 | 1.08134 | 145.4411 | 1.08433 | 147.4580 | 1.08730 | 149.4888 |
| 3/4 | 1.08144 | 145.5039 | 1.08443 | 147.5213 | 1.08740 | 149.5525 |
| 25/32 | 1.08153 | 145.5667 | 1.08452 | 147.5845 | 1.08749 | 149.6162 |
| 13/16 | 1.08162 | 145.6296 | 1.08461 | 147.6478 | 1.08758 | 149.6799 |
| 27/32 | 1.08172 | 145.6924 | 1.08471 | 147.7111 | 1.08767 | 149.7437 |
| 7/8 | 1.08181 | 145.7553 | 1.08480 | 147.7744 | 1.08777 | 149.8074 |
| 29/32 | 1.08191 | 145.8182 | 1.08489 | 147.8377 | 1.08786 | 149.8712 |
| 15/16 | 1.08200 | 145.8811 | 1.08499 | 147.9011 | 1.08795 | 149.9349 |
| 31/32 | 1.08209 | 145.9440 | 1.08508 | 147.9644 | 1.08804 | 149.9987 |
| 1 | 1.08219 | 146.0069 | 1.08517 | 148.0278 | 1.08814 | 150.0625 |

| Fractions of an Inch. | 3″ | | 4 | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.08814 | 150.0625 | 1.09108 | 152.1111 | 1.09401 | 154.1736 |
| 1/32 | 1.08823 | 150.1263 | 1.09117 | 152.1754 | 1.09410 | 154.2383 |
| 1/16 | 1.08832 | 150.1901 | 1.09126 | 152.2396 | 1.09419 | 154.3030 |
| 3/32 | 1.08841 | 150.2540 | 1.09136 | 152.3039 | 1.09428 | 154.3677 |
| 1/8 | 1.08851 | 150.3178 | 1.09145 | 152.3682 | 1.09437 | 154.4324 |
| 5/32 | 1.08860 | 150.3817 | 1.09154 | 152.4325 | 1.09446 | 154.4971 |
| 3/16 | 1.08869 | 150.4456 | 1.09163 | 152.4968 | 1.09455 | 154.5619 |
| 7/32 | 1.08878 | 150.5094 | 1.09172 | 152.5611 | 1.09464 | 154.6266 |
| 1/4 | 1.08887 | 150.5734 | 1.09181 | 152.6254 | 1.09473 | 154.6914 |
| 9/32 | 1.08897 | 150.6373 | 1.09190 | 152.6898 | 1.09482 | 154.7562 |
| 5/16 | 1.08906 | 150.7012 | 1.09200 | 152.7542 | 1.09491 | 154.8210 |
| 11/32 | 1.08915 | 150.7651 | 1.09209 | 152.8185 | 1.09501 | 154.8858 |
| 3/8 | 1.08924 | 150.8291 | 1.09218 | 152.8829 | 1.09510 | 154.9506 |
| 13/32 | 1.08933 | 150.8931 | 1.09227 | 152.9473 | 1.09519 | 155.0155 |
| 7/16 | 1.08943 | 150.9571 | 1.09236 | 153.0117 | 1.09528 | 155.0803 |
| 15/32 | 1.08952 | 151.0211 | 1.09245 | 153.0762 | 1.09537 | 155.1452 |
| 1/2 | 1.08961 | 151.0851 | 1.09255 | 153.1406 | 1.09546 | 155.2101 |
| 17/32 | 1.08970 | 151.1491 | 1.09264 | 153.2051 | 1.09555 | 155.2750 |
| 9/16 | 1.08979 | 151.2131 | 1.09273 | 153.2696 | 1.09564 | 155.3399 |
| 19/32 | 1.08989 | 151.2772 | 1.09282 | 153.3340 | 1.09573 | 155.4048 |
| 5/8 | 1.08998 | 151.3413 | 1.09291 | 153.3985 | 1.09582 | 155.4697 |
| 21/32 | 1.09007 | 151.4053 | 1.09300 | 153.4631 | 1.09591 | 155.5347 |
| 11/16 | 1.09016 | 151.4694 | 1.09309 | 153.5276 | 1.09600 | 155.5996 |
| 23/32 | 1.09025 | 151.5335 | 1.09318 | 153.5921 | 1.09609 | 155.6646 |
| 3/4 | 1.09035 | 151.5977 | 1.09328 | 153.6567 | 1.09619 | 155.7296 |
| 25/32 | 1.09044 | 151.6618 | 1.09337 | 153.7213 | 1.09628 | 155.7946 |
| 13/16 | 1.09053 | 151.7259 | 1.09346 | 153.7858 | 1.09637 | 155.8596 |
| 27/32 | 1.09062 | 151.7901 | 1.09355 | 153.8504 | 1.09646 | 155.9246 |
| 7/8 | 1.09071 | 151.8543 | 1.09364 | 153.9150 | 1.09655 | 155.9897 |
| 29/32 | 1.09081 | 151.9185 | 1.09373 | 153.9797 | 1.09664 | 156.0547 |
| 15/16 | 1.09090 | 151.9827 | 1.09382 | 154.0443 | 1.09673 | 156.1198 |
| 31/32 | 1.09099 | 152.0469 | 1.09391 | 154.1089 | 1.09682 | 156.1849 |
| 1 | 1.09108 | 152.1111 | 1.09401 | 154.1736 | 1.09691 | 156.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.09691 | 156.2500 | 1.09980 | 158.3403 | 1.10266 | 160.4444 |
| 1/32 | 1.09700 | 156.3151 | 1.09989 | 158.4058 | 1.10275 | 160.5104 |
| 1/16 | 1.09709 | 156.3802 | 1.09998 | 158.4714 | 1.10284 | 160.5764 |
| 3/32 | 1.09718 | 156.4454 | 1.10007 | 158.5370 | 1.10293 | 160.6424 |
| 1/8 | 1.09727 | 156.5105 | 1.10016 | 158.6025 | 1.10302 | 160.7084 |
| 5/32 | 1.09736 | 156.5757 | 1.10024 | 158.6681 | 1.10311 | 160.7745 |
| 3/16 | 1 09745 | 156.6409 | 1.10033 | 158.7338 | 1.10320 | 160.8405 |
| 7/32 | 1.09754 | 156.7061 | 1.10042 | 158.7994 | 1.10329 | 160.9066 |
| 1/4 | 1.09763 | 156.7713 | 1.10051 | 158.8650 | 1.10338 | 160.9727 |
| 9/32 | 1.09772 | 156.8365 | 1.10060 | 158.9307 | 1.10347 | 161.0387 |
| 5/16 | 1.09781 | 156.9017 | 1.10069 | 158.9963 | 1.10355 | 161.1048 |
| 11/32 | 1.09790 | 156.9670 | 1.10078 | 159.0620 | 1.10364 | 161.1710 |
| 3/8 | 1.09799 | 157.0322 | 1.10087 | 159.1277 | 1.10373 | 161.2371 |
| 13/32 | 1.09808 | 157.0975 | 1.10096 | 159.1934 | 1.10382 | 161.3032 |
| 7/16 | 1.09817 | 157.1628 | 1.10105 | 159.2591 | 1.10391 | 161.3694 |
| 15/32 | 1.09827 | 157.2281 | 1.10114 | 159.3249 | 1.10400 | 161.4356 |
| 1/2 | 1.09836 | 157.2934 | 1.10123 | 159.3906 | 1.10409 | 161.5017 |
| 17/32 | 1.09845 | 157.3587 | 1.10132 | 159.4564 | 1.10418 | 161.5679 |
| 9/16 | 1.09854 | 157.4241 | 1.10141 | 159.5222 | 1.10427 | 161.6341 |
| 19/32 | 1.09863 | 157.4894 | 1.10150 | 159.5880 | 1.10436 | 161.7004 |
| 5/8 | 1.09872 | 157.5548 | 1.10159 | 159.6538 | 1.10444 | 161.7666 |
| 21/32 | 1.09881 | 157.6202 | 1.10168 | 159.7196 | 1.10453 | 161.8329 |
| 11/16 | 1.09890 | 157.6856 | 1.10177 | 159.7854 | 1.10462 | 161.8991 |
| 23/32 | 1.09899 | 157.7510 | 1.10186 | 159.8512 | 1.10471 | 161.9654 |
| 3/4 | 1.09908 | 157.8164 | 1.10195 | 159.9171 | 1.10480 | 162.0317 |
| 25/32 | 1.09917 | 157.8818 | 1.10204 | 159.9830 | 1.10489 | 162.0980 |
| 13/16 | 1.09926 | 157.9473 | 1.10213 | 160.0489 | 1.10498 | 162.1643 |
| 27/32 | 1.09935 | 158.0128 | 1.10222 | 160.1148 | 1.10507 | 162.2306 |
| 7/8 | 1.09944 | 158.0782 | 1.10231 | 160.1807 | 1.10516 | 162.2970 |
| 29/32 | 1.09953 | 158.1437 | 1.10239 | 160.2466 | 1.10524 | 162.3633 |
| 15/16 | 1.09962 | 158.2092 | 1.10248 | 160.3125 | 1.10533 | 162.4297 |
| 31/32 | 1.09971 | 158.2747 | 1.10257 | 160.3785 | 1.10542 | 162.4961 |
| 1 | 1.09980 | 158.3403 | 1.10266 | 160.4444 | 1.10551 | 162.5625 |

| Fractions of an Inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.10551 | 162.5625 | 1.10834 | 164.6944 | 1.11115 | 166.8403 |
| 1/32 | 1.10560 | 162.6289 | 1.10843 | 164.7613 | 1.11124 | 166.9076 |
| 1/16 | 1.10569 | 162.6953 | 1.10852 | 164.8282 | 1.11133 | 166.9749 |
| 3/32 | 1.10578 | 162.7618 | 1.10860 | 164.8950 | 1.11141 | 167.0422 |
| 1/8 | 1.10586 | 162.8282 | 1.10869 | 164.9619 | 1.11150 | 167.1095 |
| 5/32 | 1.10595 | 162.8947 | 1.10878 | 165.0288 | 1.11159 | 167.1768 |
| 3/16 | 1.10604 | 162.9612 | 1.10887 | 165.0957 | 1.11168 | 167.2442 |
| 7/32 | 1.10613 | 163.0277 | 1.10896 | 165.1627 | 1.11176 | 167.3115 |
| 1/4 | 1.10622 | 163.0942 | 1.10904 | 165.2296 | 1.11185 | 167.3789 |
| 9/32 | 1.10631 | 163.1607 | 1.10913 | 165.2966 | 1.11194 | 167.4463 |
| 5/16 | 1.10640 | 163.2272 | 1.10922 | 165.3635 | 1.11203 | 167.5137 |
| 11/32 | 1.10648 | 163.2938 | 1.10931 | 165.4305 | 1.11211 | 167.5811 |
| 3/8 | 1.10657 | 163.3604 | 1.10940 | 165.4975 | 1.11220 | 167.6485 |
| 13/32 | 1.10666 | 163.4269 | 1.10948 | 165.5645 | 1.11229 | 167.7160 |
| 7/16 | 1.10675 | 163.4935 | 1.10957 | 165.6315 | 1.11237 | 167.7834 |
| 15/32 | 1.10684 | 163.5601 | 1.10966 | 165.6986 | 1.11246 | 167.8509 |
| 1/2 | 1.10693 | 163.6267 | 1.10975 | 165.7656 | 1.11255 | 167.9184 |
| 17/32 | 1.10702 | 163.6934 | 1.10984 | 165.8327 | 1.11264 | 167.9859 |
| 9/16 | 1.10710 | 163.7600 | 1.10992 | 165.8998 | 1.11272 | 168.0534 |
| 19/32 | 1.10719 | 163.8267 | 1.11001 | 165.9669 | 1.11281 | 168.1209 |
| 5/8 | 1.10728 | 163.8933 | 1.11010 | 166.0340 | 1.11290 | 168.1885 |
| 21/32 | 1.10737 | 163.9600 | 1.11019 | 166.1011 | 1.11299 | 168.2560 |
| 11/16 | 1.10746 | 164.0267 | 1.11027 | 166.1682 | 1.11307 | 168.3236 |
| 23/32 | 1.10755 | 164.0934 | 1.11036 | 166.2354 | 1.11316 | 168.3912 |
| 3/4 | 1.10763 | 164.1602 | 1.11045 | 166.3025 | 1.11325 | 168.4588 |
| 25/32 | 1.10772 | 164.2269 | 1.11054 | 166.3697 | 1.11333 | 168.5264 |
| 13/16 | 1.10781 | 164.2936 | 1.11062 | 166.4369 | 1.11342 | 168.5940 |
| 27/32 | 1.10790 | 164.3604 | 1.11071 | 166.5041 | 1.11351 | 168.6616 |
| 7/8 | 1.10799 | 164.4272 | 1.11080 | 166.5713 | 1.11360 | 168.7293 |
| 29/32 | 1.10808 | 164.4940 | 1.11089 | 166.6385 | 1.11368 | 168.7969 |
| 15/16 | 1.10816 | 164.5608 | 1.11098 | 166.7058 | 1.11377 | 168.8646 |
| 31/32 | 1.10825 | 164.6276 | 1.11106 | 166.7730 | 1.11386 | 168.9323 |
| 1 | 1.10834 | 164.6944 | 1.11115 | 166.8403 | 1.11394 | 169.0000 |

| Fractions of an inch. | 0" | | 1" | | 2" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.11394 | 169.0000 | 1.11672 | 171.1736 | 1.11948 | 173.3611 |
| 1/32 | 1.11403 | 169.0677 | 1.11680 | 171.2418 | 1.11956 | 173.4297 |
| 1/16 | 1.11412 | 169.1354 | 1.11689 | 171.3099 | 1.11965 | 173.4983 |
| 3/32 | 1.11420 | 169.2032 | 1.11698 | 171.3781 | 1.11973 | 173.5669 |
| 1/8 | 1.11429 | 169.2709 | 1.11706 | 171.4463 | 1.11982 | 173.6355 |
| 5/32 | 1.11438 | 169.3387 | 1.11715 | 171.5145 | 1.11991 | 173.7042 |
| 3/16 | 1.11447 | 169.4065 | 1.11724 | 171.5827 | 1.11999 | 173.7728 |
| 7/32 | 1.11455 | 169.4743 | 1.11732 | 171.6509 | 1.12008 | 173.8415 |
| 1/4 | 1.11464 | 169.5421 | 1.11741 | 171.7192 | 1.12016 | 173.9102 |
| 9/32 | 1.11473 | 169.6099 | 1.11750 | 171.7874 | 1.12025 | 173.9788 |
| 5/16 | 1.11481 | 169.6778 | 1.11758 | 171.8557 | 1.12033 | 174.0476 |
| 11/32 | 1.11490 | 169.7456 | 1.11767 | 171.9240 | 1.12042 | 174.1163 |
| 3/8 | 1.11499 | 169.8135 | 1.11775 | 171.9923 | 1.12051 | 174.1850 |
| 13/32 | 1.11507 | 169.8814 | 1.11784 | 172.0606 | 1.12059 | 174.2538 |
| 7/16 | 1.11516 | 169.9492 | 1.11793 | 172.1289 | 1.12068 | 174.3225 |
| 15/32 | 1.11525 | 170.0172 | 1.11801 | 172.1973 | 1.12076 | 174.3913 |
| 1/2 | 1.11533 | 170.0851 | 1.11810 | 172.2656 | 1.12085 | 174.4601 |
| 17/32 | 1.11542 | 170.1530 | 1.11819 | 172.3340 | 1.12093 | 174.5289 |
| 9/16 | 1.11551 | 170.2209 | 1.11827 | 172.4024 | 1.12102 | 174.5977 |
| 19/32 | 1.11559 | 170.2889 | 1.11836 | 172.4708 | 1.12110 | 174.6665 |
| 5/8 | 1.11568 | 170.3569 | 1.11844 | 172.5392 | 1.12119 | 174.7354 |
| 21/32 | 1.11577 | 170.4249 | 1.11853 | 172.6076 | 1.12128 | 174.8042 |
| 11/16 | 1.11585 | 170.4929 | 1.11862 | 172.6760 | 1.12136 | 174.8731 |
| 23/32 | 1.11594 | 170.5609 | 1.11870 | 172.7445 | 1.12145 | 174.9420 |
| 3/4 | 1.11603 | 170.6289 | 1.11879 | 172.8129 | 1.12153 | 175.0109 |
| 25/32 | 1.11611 | 170.6969 | 1.11887 | 172.8814 | 1.12162 | 175.0798 |
| 13/16 | 1.11620 | 170.7650 | 1.11896 | 172.9499 | 1.12170 | 175.1487 |
| 27/32 | 1.11629 | 170.8331 | 1.11905 | 173.0184 | 1.12179 | 175.2176 |
| 7/8 | 1.11637 | 170.9011 | 1.11913 | 173.0869 | 1.12187 | 175.2866 |
| 29/32 | 1.11646 | 170.9692 | 1.11922 | 173.1554 | 1.12196 | 175.3555 |
| 15/16 | 1.11655 | 171.0374 | 1.11930 | 173.2240 | 1.12205 | 175.4245 |
| 31/32 | 1.11663 | 171.1055 | 1.11939 | 173.2925 | 1.12213 | 175.4935 |
| 1 | 1.11672 | 171.1736 | 1.11948 | 173.3611 | 1.12222 | 175.5625 |

| Fractions of an inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.12222 | 175.5625 | 1.12494 | 177.7778 | 1.12764 | 180.0069 |
| 1/32 | 1.12230 | 175.6315 | 1.12502 | 177.8472 | 1.12773 | 180.0768 |
| 1/16 | 1.12239 | 175.7005 | 1.12511 | 177.9167 | 1.12781 | 180.1467 |
| 3/32 | 1.12247 | 175.7696 | 1.12519 | 177.9862 | 1.12790 | 180.2166 |
| 1/8 | 1.12256 | 175.8387 | 1.12528 | 178.0557 | 1.12798 | 180.2866 |
| 5/32 | 1.12264 | 175.9077 | 1.12536 | 178.1252 | 1.12807 | 180.3565 |
| 3/16 | 1.12273 | 175.9768 | 1.12545 | 178.1947 | 1.12815 | 180.4265 |
| 7/32 | 1.12281 | 176.0459 | 1.12553 | 178.2642 | 1.12823 | 180.4964 |
| 1/4 | 1.12290 | 176.1150 | 1.12562 | 178.3338 | 1.12832 | 180.5664 |
| 9/32 | 1.12298 | 176.1841 | 1.12570 | 178.4033 | 1.12840 | 180.6364 |
| 5/16 | 1.12307 | 176.2533 | 1.12579 | 178.4729 | 1.12849 | 180.7064 |
| 11/32 | 1.12315 | 176.3224 | 1.12587 | 178.5425 | 1.12857 | 180.7764 |
| 3/8 | 1.12324 | 176.3916 | 1.12596 | 178.6121 | 1.12866 | 180.8465 |
| 13/32 | 1.12332 | 176.4608 | 1.12604 | 178.6817 | 1.12874 | 180.9165 |
| 7/16 | 1.12341 | 176.5300 | 1.12612 | 178.7513 | 1.12882 | 180.9866 |
| 15/32 | 1.12349 | 176.5992 | 1.12621 | 178.8210 | 1.12891 | 181.0566 |
| 1/2 | 1.12358 | 176.6684 | 1.12629 | 178.8906 | 1.12899 | 181.1267 |
| 17/32 | 1.12366 | 176.7376 | 1.12638 | 178.9603 | 1.12908 | 181.1968 |
| 9/16 | 1.12375 | 176.8069 | 1.12646 | 179.0300 | 1.12916 | 181.2670 |
| 19/32 | 1.12383 | 176.8761 | 1.12655 | 179.0997 | 1.12924 | 181.3371 |
| 5/8 | 1.12392 | 176.9454 | 1.12663 | 179.1694 | 1.12933 | 181.4072 |
| 21/32 | 1.12400 | 177.0147 | 1.12672 | 179.2391 | 1.12941 | 181.4774 |
| 11/16 | 1.12409 | 177.0840 | 1.12680 | 179.3088 | 1.12950 | 181.5476 |
| 23/32 | 1.12417 | 177.1533 | 1.12689 | 179.3786 | 1.12958 | 181.6177 |
| 3/4 | 1.12426 | 177.2227 | 1.12697 | 179.4484 | 1.12966 | 181.6879 |
| 25/32 | 1.12434 | 177.2920 | 1.12705 | 179.5181 | 1.12975 | 181.7581 |
| 13/16 | 1.12443 | 177.3614 | 1.12714 | 179.5879 | 1.12983 | 181.8284 |
| 27/32 | 1.12451 | 177.4307 | 1.12722 | 179.6577 | 1.12991 | 181.8986 |
| 7/8 | 1.12460 | 177.5001 | 1.12731 | 179.7275 | 1.13000 | 181.9689 |
| 29/32 | 1.12468 | 177.5695 | 1.12739 | 179.7974 | 1.13008 | 182.0391 |
| 15/16 | 1.12477 | 177.6389 | 1.12748 | 179.8672 | 1.13017 | 182.1094 |
| 31/32 | 1.12485 | 177.7083 | 1.12756 | 179.9371 | 1.13025 | 182.1797 |
| 1 | 1.12494 | 177.7778 | 1.12764 | 180.0069 | 1.13033 | 182.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.13033 | 182.2500 | 1.13301 | 184.5069 | 1.13566 | 186.7778 |
| 1/32 | 1.13042 | 182.3203 | 1.13309 | 184.5777 | 1.13575 | 186.8490 |
| 1/16 | 1.13050 | 182.3907 | 1.13317 | 184.6485 | 1.13583 | 186.9202 |
| 3/32 | 1.13059 | 182.4610 | 1.13326 | 184.7192 | 1.13591 | 186.9914 |
| 1/8 | 1.13067 | 182.5314 | 1.13334 | 184.7900 | 1.13599 | 187.0626 |
| 5/32 | 1.13075 | 182.6017 | 1.13342 | 184.8608 | 1.13608 | 187.1339 |
| 3/16 | 1.13084 | 182.6721 | 1.13351 | 184.9317 | 1.13616 | 187.2051 |
| 7/32 | 1.13092 | 182.7425 | 1.13359 | 185.0025 | 1.13624 | 187.2764 |
| 1/4 | 1.13100 | 182.8129 | 1.13367 | 185.0734 | 1.13632 | 187.3477 |
| 9/32 | 1.13109 | 182.8834 | 1.13376 | 185.1442 | 1.13641 | 187.4190 |
| 5/16 | 1.13117 | 182.9538 | 1.13384 | 185.2151 | 1.13649 | 187.4903 |
| 11/32 | 1.13125 | 183.0243 | 1.13392 | 185.2860 | 1.13657 | 187.5616 |
| 3/8 | 1.13134 | 183.0947 | 1.13400 | 185.3569 | 1.13665 | 187.6329 |
| 13/32 | 1.13142 | 183.1652 | 1.13409 | 185.4278 | 1.13674 | 187.7043 |
| 7/16 | 1.13151 | 183.2357 | 1.13417 | 185.4987 | 1.13682 | 187.7756 |
| 15/32 | 1.13159 | 183.3062 | 1.13425 | 185.5697 | 1.13690 | 187.8470 |
| 1/2 | 1.13167 | 183.3767 | 1.13434 | 185.6406 | 1.13698 | 187.9184 |
| 17/32 | 1.13176 | 183.4473 | 1.13442 | 185.7116 | 1.13707 | 187.9898 |
| 9/16 | 1.13184 | 183.5178 | 1.13450 | 185.7826 | 1.13715 | 188.0612 |
| 19/32 | 1.13192 | 183.5884 | 1.13459 | 185.8536 | 1.13723 | 188.1327 |
| 5/8 | 1.13201 | 183.6590 | 1.13467 | 185.9246 | 1.13731 | 188.2041 |
| 21/32 | 1 13209 | 183.7296 | 1.13475 | 185.9956 | 1.13740 | 188.2756 |
| 11/16 | 1.13217 | 183.8002 | 1.13483 | 186.0667 | 1.13748 | 188.3470 |
| 23/32 | 1.13226 | 183.8708 | 1.13492 | 186.1377 | 1.13756 | 188.4185 |
| 3/4 | 1.13234 | 183.9414 | 1.13500 | 186.2088 | 1.13764 | 188.4900 |
| 25/32 | 1.13242 | 184.0121 | 1.13508 | 186.2798 | 1.13773 | 188.5615 |
| 13/16 | 1.13251 | 184.0827 | 1.13517 | 186.3509 | 1.13781 | 188.6331 |
| 27/32 | 1.13259 | 184.1534 | 1.13525 | 186.4220 | 1.13789 | 188.7046 |
| 7/8 | 1.13267 | 184.2241 | 1.13533 | 186.4932 | 1.13797 | 188.7762 |
| 29/32 | 1.13276 | 184.2948 | 1.13541 | 186.5643 | 1.13806 | 188.8477 |
| 15/16 | 1.13284 | 184.3655 | 1.13550 | 186.6354 | 1.13814 | 188.9193 |
| 31/32 | 1.13292 | 184.4362 | 1.13558 | 186.7066 | 1.13822 | 188.9909 |
| 1 | 1.13301 | 184.5069 | 1.13566 | 186.7778 | 1.13830 | 189.0625 |

| Fractions of an inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.13830 | 189.0625 | 1.14093 | 191.3611 | 1.14354 | 193.6736 |
| 1/32 | 1.13838 | 189.1341 | 1.14101 | 191.4332 | 1.14362 | 193.7461 |
| 1/16 | 1.13847 | 189.2058 | 1.14109 | 191.5052 | 1.14370 | 193.8186 |
| 3/32 | 1.13855 | 189.2774 | 1.14117 | 191.5773 | 1.14378 | 193.8911 |
| 1/8 | 1.13863 | 189.3491 | 1.14125 | 191.6494 | 1.14386 | 193.9637 |
| 5/32 | 1.13871 | 189.4207 | 1.14134 | 191.7215 | 1.14394 | 194.0362 |
| 3/16 | 1.13880 | 189.4924 | 1.14142 | 191.7936 | 1.14402 | 194.1088 |
| 7/32 | 1.13888 | 189.5641 | 1.14150 | 191.8658 | 1.14410 | 194.1813 |
| 1/4 | 1.13896 | 189.6359 | 1.14158 | 191.9379 | 1.14418 | 194.2539 |
| 9/32 | 1.13904 | 189.7076 | 1.14166 | 192.0101 | 1.14427 | 194.3265 |
| 5/16 | 1.13912 | 189.7793 | 1.14174 | 192.0823 | 1.14435 | 194.3991 |
| 11/32 | 1.13921 | 189.8511 | 1.14183 | 192.1545 | 1.14443 | 194.4717 |
| 3/8 | 1.13929 | 189.9229 | 1.14191 | 192.2267 | 1.14451 | 194.5444 |
| 13/32 | 1.13937 | 189.9946 | 1.14199 | 192.2989 | 1.14459 | 194.6170 |
| 7/16 | 1.13945 | 190.0664 | 1.14207 | 192.3711 | 1.14467 | 194.6897 |
| 15/32 | 1.13953 | 190.1382 | 1.14215 | 192.4434 | 1.14475 | 194.7624 |
| 1/2 | 1.13962 | 190.2101 | 1.14223 | 192.5156 | 1.14483 | 194.8351 |
| 17/32 | 1.13970 | 190.2819 | 1.14231 | 192.5879 | 1.14491 | 194.9078 |
| 9/16 | 1.13978 | 190.3538 | 1.14240 | 192.6602 | 1.14500 | 194.9805 |
| 19/32 | 1.13986 | 190.4256 | 1.14248 | 192.7325 | 1.14508 | 195.0532 |
| 5/8 | 1.13994 | 190.4975 | 1.14256 | 192.8048 | 1.14516 | 195.1260 |
| 21/32 | 1.14003 | 190.5694 | 1.14264 | 192.8771 | 1.14524 | 195.1987 |
| 11/16 | 1.14011 | 190.6413 | 1.14272 | 192.9495 | 1.14532 | 195.2715 |
| 23/32 | 1.14019 | 190.7132 | 1.14280 | 193.0218 | 1.14540 | 195.3443 |
| 3/4 | 1.14027 | 190.7852 | 1.14288 | 193.0942 | 1.14548 | 195.4171 |
| 25/32 | 1.14035 | 190.8571 | 1.14297 | 193.1666 | 1.14556 | 195.4899 |
| 13/16 | 1.14044 | 190.9291 | 1.14305 | 193.2390 | 1.14564 | 195.5627 |
| 27/32 | 1.14052 | 191.0010 | 1.14313 | 193.3114 | 1.14572 | 195.6356 |
| 7/8 | 1.14060 | 191.0730 | 1.14321 | 193.3838 | 1.14580 | 195.7084 |
| 29/32 | 1.14068 | 191.1450 | 1.14329 | 193.4562 | 1.14589 | 195.7813 |
| 15/16 | 1.14076 | 191.2170 | 1.14337 | 193.5287 | 1.14597 | 195.8542 |
| 31/32 | 1.14085 | 191.2891 | 1.14345 | 193.6011 | 1.14605 | 195.9271 |
| 1 | 1.14093 | 191.3611 | 1.14354 | 193.6736 | 1.14613 | 196.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.14613 | 196.0000 | 1.14871 | 198.3403 | 1.15127 | 200.6944 |
| 1/32 | 1.14621 | 196.0729 | 1.14879 | 198.4136 | 1.15135 | 200.7682 |
| 1/16 | 1.14629 | 196.1459 | 1.14887 | 198.4870 | 1.15143 | 200.8420 |
| 3/32 | 1.14637 | 196.2188 | 1.14895 | 198.5604 | 1.15151 | 200.9159 |
| 1/8 | 1.14645 | 196.2918 | 1.14903 | 198.6338 | 1.15159 | 200.9897 |
| 5/32 | 1.14653 | 196.3648 | 1.14911 | 198.7072 | 1.15167 | 201.0635 |
| 3/16 | 1.14661 | 196.4377 | 1.14919 | 198.7806 | 1.15175 | 201.1374 |
| 7/32 | 1.14669 | 196.5107 | 1.14927 | 198.8541 | 1.15183 | 201.2113 |
| 1/4 | 1.14677 | 196.5838 | 1.14935 | 198.9275 | 1.15191 | 201.2852 |
| 9/32 | 1.14685 | 196.6568 | 1.14943 | 199.0010 | 1.15199 | 201.3591 |
| 5/16 | 1.14694 | 196.7298 | 1.14951 | 199.0745 | 1.15207 | 201.4330 |
| 11/32 | 1.14702 | 196.8029 | 1.14959 | 199.1480 | 1.15214 | 201.5069 |
| 3/8 | 1.14710 | 196.8760 | 1.14967 | 199.2215 | 1.15222 | 201.5808 |
| 13/32 | 1.14718 | 196.9491 | 1.14975 | 199.2950 | 1.15230 | 201.6548 |
| 7/16 | 1.14726 | 197.0222 | 1.14983 | 199.3685 | 1.15238 | 201.7288 |
| 15/32 | 1.14734 | 197.0953 | 1.14991 | 199.4421 | 1.15246 | 201.8027 |
| 1/2 | 1.14742 | 197.1684 | 1.14999 | 199.5156 | 1.15254 | 201.8767 |
| 17/32 | 1.14750 | 197.2415 | 1.15007 | 199.5892 | 1.15262 | 201.9507 |
| 9/16 | 1.14758 | 197.3147 | 1.15015 | 199.6628 | 1.15270 | 202.0248 |
| 19/32 | 1.14766 | 197.3879 | 1.15023 | 199.7364 | 1.15278 | 202.0988 |
| 5/8 | 1.14774 | 197.4610 | 1.15031 | 199.8100 | 1.15286 | 202.1729 |
| 21/32 | 1.14782 | 197.5342 | 1.15039 | 199.8836 | 1.15294 | 202.2469 |
| 11/16 | 1.14790 | 197.6074 | 1.15047 | 199.9573 | 1.15302 | 202.3210 |
| 23/32 | 1.14798 | 197.6807 | 1.15055 | 200.0309 | 1.15310 | 202.3951 |
| 3/4 | 1.14806 | 197.7539 | 1.15063 | 200.1046 | 1.15318 | 202.4692 |
| 25/32 | 1.14814 | 197.8272 | 1.15071 | 200.1783 | 1.15326 | 202.5433 |
| 13/16 | 1.14822 | 197.9004 | 1.15079 | 200.2520 | 1.15334 | 202.6174 |
| 27/32 | 1.14830 | 197.9737 | 1.15087 | 200.3257 | 1.15342 | 202.6916 |
| 7/8 | 1.14838 | 198.0470 | 1.15095 | 200.3994 | 1.15350 | 202.7657 |
| 29/32 | 1.14846 | 198.1203 | 1.15103 | 200.4732 | 1.15358 | 202.8399 |
| 15/16 | 1.14854 | 198.1936 | 1.15111 | 200.5469 | 1.15366 | 202.9141 |
| 31/32 | 1.14863 | 198.2669 | 1.15119 | 200.6207 | 1.15374 | 202.9883 |
| 1 | 1.14871 | 198.3403 | 1.15127 | 200.6944 | 1.15381 | 203.0625 |

| Fractions of an Inch. | 3″ | | 4 | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.15381 | 203.0625 | 1.15635 | 205.4444 | 1.15886 | 207.8403 |
| 1/32 | 1.15389 | 203.1367 | 1.15643 | 205.5191 | 1.15894 | 207.9154 |
| 1/16 | 1.15397 | 203.2110 | 1.15650 | 205.5938 | 1.15902 | 207.9905 |
| 3/32 | 1.15405 | 203.2852 | 1.15658 | 205.6685 | 1.15910 | 208.0656 |
| 1/8 | 1.15413 | 203.3595 | 1.15666 | 205.7432 | 1.15918 | 208.1407 |
| 5/32 | 1.15421 | 203.4338 | 1.15674 | 205.8179 | 1.15926 | 208.2159 |
| 3/16 | 1.15429 | 203.5081 | 1.15682 | 205.8926 | 1.15934 | 208.2910 |
| 7/32 | 1.15437 | 203.5824 | 1.15690 | 205.9673 | 1.15941 | 208.3662 |
| 1/4 | 1.15445 | 203.6567 | 1.15698 | 206.0421 | 1.15949 | 208.4414 |
| 9/32 | 1.15453 | 203.7310 | 1.15706 | 206.1169 | 1.15957 | 208.5166 |
| 5/16 | 1.15461 | 203.8054 | 1.15714 | 206.1917 | 1.15965 | 208.5918 |
| 11/32 | 1.15469 | 203.8797 | 1.15721 | 206.2664 | 1.15973 | 208.6671 |
| 3/8 | 1.15477 | 203.9541 | 1.15729 | 206.3413 | 1.15981 | 208.7423 |
| 13/32 | 1.15485 | 204.0285 | 1.15737 | 206.4161 | 1.15988 | 208.8176 |
| 7/16 | 1.15492 | 204.1029 | 1.15745 | 206.4909 | 1.15996 | 208.8928 |
| 15/32 | 1.15500 | 204.1773 | 1.15753 | 206.5658 | 1.16004 | 208.9681 |
| 1/2 | 1.15508 | 204.2517 | 1.15761 | 206.6406 | 1.16012 | 209.0434 |
| 17/32 | 1.15516 | 204.3262 | 1.15769 | 206.7155 | 1.16020 | 209.1187 |
| 9/16 | 1.15524 | 204.4006 | 1.15777 | 206.7904 | 1.16027 | 209.1940 |
| 19/32 | 1.15532 | 204.4751 | 1.15784 | 206.8653 | 1.16035 | 209.2694 |
| 5/8 | 1.15540 | 204.5496 | 1.15792 | 206.9402 | 1.16043 | 209.3447 |
| 21/32 | 1.15548 | 204.6241 | 1.15800 | 207.0151 | 1.16051 | 209.4201 |
| 11/16 | 1.15556 | 204.6986 | 1.15808 | 207.0901 | 1.16059 | 209.4955 |
| 23/32 | 1.15564 | 204.7731 | 1.15816 | 207.1650 | 1.16067 | 209.5709 |
| 3/4 | 1.15572 | 204.8477 | 1.15824 | 207.2400 | 1.16074 | 209.6463 |
| 25/32 | 1.15579 | 204.9222 | 1.15832 | 207.3150 | 1.16082 | 209.7217 |
| 13/16 | 1.15587 | 204.9968 | 1.15839 | 207.3900 | 1.16090 | 209.7971 |
| 27/32 | 1.15595 | 205.0714 | 1.15847 | 207.4650 | 1.16098 | 209.8726 |
| 7/8 | 1.15603 | 205.1459 | 1.15855 | 207.5400 | 1.16106 | 209.9480 |
| 29/32 | 1.15611 | 205.2205 | 1.15863 | 207.6151 | 1.16113 | 210.0235 |
| 15/16 | 1.15619 | 205.2952 | 1.15871 | 207.6901 | 1.16121 | 210.0990 |
| 31/32 | 1.15627 | 205.3698 | 1.15879 | 207.7652 | 1.16129 | 210.1745 |
| 1 | 1.15635 | 205.4444 | 1.15886 | 207.8403 | 1.16137 | 210.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.16137 | 210.2500 | 1.16386 | 212.6736 | 1.16633 | 215.1111 |
| 1/32 | 1.16145 | 210.3255 | 1.16393 | 212.7496 | 1.16641 | 215.1875 |
| 1/16 | 1.16152 | 210.4011 | 1.16401 | 212.8255 | 1.16649 | 215.2639 |
| 3/32 | 1.16160 | 210.4766 | 1.16409 | 212.9015 | 1.16656 | 215.3403 |
| 1/8 | 1.16168 | 210.5522 | 1.16417 | 212.9775 | 1.16664 | 215.4168 |
| 5/32 | 1.16176 | 210.6278 | 1.16424 | 213.0536 | 1.16672 | 215.4932 |
| 3/16 | 1.16184 | 210.7034 | 1.16432 | 213.1296 | 1.16679 | 215.5697 |
| 7/32 | 1.16191 | 210.7790 | 1.16440 | 213.2056 | 1.16687 | 215.6462 |
| 1/4 | 1.16199 | 210.8546 | 1.16448 | 213.2817 | 1.16695 | 215.7227 |
| 9/32 | 1.16207 | 210.9302 | 1.16455 | 213.3578 | 1.16702 | 215.7992 |
| 5/16 | 1.16215 | 211.0059 | 1.16463 | 213.4338 | 1.16710 | 215.8757 |
| 11/32 | 1.16223 | 211.0815 | 1.16471 | 213.5099 | 1.16718 | 215.9522 |
| 3/8 | 1.16230 | 211.1572 | 1.16479 | 213.5860 | 1.16726 | 216.0288 |
| 13/32 | 1.16238 | 211.2329 | 1.16486 | 213.6622 | 1.16733 | 216.1053 |
| 7/16 | 1.16246 | 211.3086 | 1.16494 | 213.7383 | 1.16741 | 216.1819 |
| 15/32 | 1.16254 | 211.3843 | 1.16502 | 213.8145 | 1.16749 | 216.2585 |
| 1/2 | 1.16261 | 211.4601 | 1.16510 | 213.8906 | 1.16756 | 216.3351 |
| 17/32 | 1.16269 | 211.5358 | 1.16517 | 213.9668 | 1.16764 | 216.4117 |
| 9/16 | 1.16277 | 211.6116 | 1.16525 | 214.0430 | 1.16772 | 216.4883 |
| 19/32 | 1.16285 | 211.6873 | 1.16533 | 214.1192 | 1.16779 | 216.5649 |
| 5/8 | 1.16293 | 211.7631 | 1.16541 | 214.1954 | 1.16787 | 216.6416 |
| 21/32 | 1.16300 | 211.8389 | 1.16548 | 214.2717 | 1.16795 | 216.7183 |
| 11/16 | 1.16308 | 211.9147 | 1.16556 | 214.3479 | 1.16802 | 216.7949 |
| 23/32 | 1.16316 | 211.9906 | 1.16564 | 214.4242 | 1.16810 | 216.8716 |
| 3/4 | 1.16324 | 212.0664 | 1.16571 | 214.5004 | 1.16818 | 216.9484 |
| 25/32 | 1.16331 | 212.1423 | 1.16579 | 214.5767 | 1.16825 | 217.0251 |
| 13/16 | 1.16339 | 212.2181 | 1.16587 | 214.6530 | 1.16833 | 217.1018 |
| 27/32 | 1.16347 | 212.2940 | 1.16595 | 214.7293 | 1.16841 | 217.1786 |
| 7/8 | 1.16355 | 212.3699 | 1.16602 | 214.8057 | 1.16849 | 217.2553 |
| 29/32 | 1.16362 | 212.4458 | 1.16610 | 214.8820 | 1.16856 | 217.3321 |
| 15/16 | 1.16370 | 212.5217 | 1.16618 | 214.9584 | 1.16864 | 217.4089 |
| 31/32 | 1.16378 | 212.5977 | 1.16625 | 215.0347 | 1.16872 | 217.4857 |
| 1 | 1.16386 | 212.6736 | 1.16633 | 215.1111 | 1.16879 | 217.5625 |

| Fractions of an inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.16879 | 217.5625 | 1.17124 | 220.0278 | 1.17367 | 222.5069 |
| 1/32 | 1.16887 | 217.6393 | 1.17131 | 220.1050 | 1.17375 | 222.5846 |
| 1/16 | 1.16895 | 217.7162 | 1.17139 | 220.1823 | 1.17382 | 222.6624 |
| 3/32 | 1.16902 | 217.7930 | 1.17147 | 220.2596 | 1.17390 | 222.7401 |
| 1/8 | 1.16910 | 217.8699 | 1.17154 | 220.3369 | 1.17397 | 222.8178 |
| 5/32 | 1.16918 | 217.9468 | 1.17162 | 220.4142 | 1.17405 | 222.8956 |
| 3/16 | 1.16925 | 218.0237 | 1.17170 | 220.4916 | 1.17413 | 222.9733 |
| 7/32 | 1.16933 | 218.1006 | 1.17177 | 220.5689 | 1.17420 | 223.0511 |
| 1/4 | 1.16940 | 218.1775 | 1.17185 | 220.6463 | 1.17428 | 223.1289 |
| 9/32 | 1.16948 | 218.2545 | 1.17192 | 220.7236 | 1.17435 | 223.2067 |
| 5/16 | 1.16956 | 218.3314 | 1.17200 | 220.8010 | 1.17443 | 223.2845 |
| 11/32 | 1.16963 | 218.4084 | 1.17208 | 220.8784 | 1.17451 | 223.3624 |
| 3/8 | 1.16971 | 218.4854 | 1.17215 | 220.9558 | 1.17458 | 223.4402 |
| 13/32 | 1.16979 | 218.5623 | 1.17223 | 221.0333 | 1.17466 | 223.5181 |
| 7/16 | 1.16986 | 218.6393 | 1.17230 | 221.1107 | 1.17473 | 223.5959 |
| 15/32 | 1.16994 | 218.7164 | 1.17238 | 221.1882 | 1.17481 | 223.6738 |
| 1/2 | 1.17002 | 218.7934 | 1.17246 | 221.2656 | 1.17488 | 223.7517 |
| 17/32 | 1.17009 | 218.8704 | 1.17253 | 221.3431 | 1.17496 | 223.8297 |
| 9/16 | 1.17017 | 218.9475 | 1.17261 | 221.4206 | 1.17503 | 223.9076 |
| 19/32 | 1.17025 | 219.0246 | 1.17269 | 221.4981 | 1.17511 | 223.9855 |
| 5/8 | 1.17032 | 219.1017 | 1.17276 | 221.5756 | 1.17519 | 224.0635 |
| 21/32 | 1.17040 | 219.1788 | 1.17284 | 221.6532 | 1.17526 | 224.1414 |
| 11/16 | 1.17048 | 219.2559 | 1.17291 | 221.7307 | 1.17534 | 224.2194 |
| 23/32 | 1.17055 | 219.3330 | 1.17299 | 221.8083 | 1.17541 | 224.2974 |
| 3/4 | 1.17063 | 219.4102 | 1.17306 | 221.8859 | 1.17549 | 224.3754 |
| 25/32 | 1.17070 | 219.4873 | 1.17314 | 221.9634 | 1.17556 | 224.4535 |
| 13/16 | 1.17078 | 219.5645 | 1.17322 | 222.0410 | 1.17564 | 224.5315 |
| 27/32 | 1.17086 | 219.6417 | 1.17329 | 222.1187 | 1.17571 | 224.6095 |
| 7/8 | 1.17093 | 219.7189 | 1.17337 | 222.1963 | 1.17579 | 224.6876 |
| 29/32 | 1.17101 | 219.7961 | 1.17344 | 222.2739 | 1.17587 | 224.7657 |
| 15/16 | 1.17109 | 219.8733 | 1.17352 | 222.3516 | 1.17594 | 224.8438 |
| 31/32 | 1.17116 | 219.9505 | 1.17360 | 222.4293 | 1.17602 | 224.9219 |
| 1 | 1.17124 | 220.0278 | 1.17367 | 222.5069 | 1.17609 | 225.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.17609 | 225.0000 | 1.17850 | 227.5069 | 1.18089 | 230.0278 |
| 1/32 | 1.17617 | 225.0781 | 1.17857 | 227.5855 | 1.18096 | 230.1068 |
| 1/16 | 1.17624 | 225.1563 | 1.17865 | 227.6641 | 1.18104 | 230.1858 |
| 3/32 | 1.17632 | 225.2344 | 1.17872 | 227.7427 | 1.18111 | 230.2648 |
| 1/8 | 1.17639 | 225.3126 | 1.17880 | 227.8213 | 1.18119 | 230.3439 |
| 5/32 | 1.17647 | 225.3908 | 1.17887 | 227.8999 | 1.18126 | 230.4229 |
| 3/16 | 1.17654 | 225.4690 | 1.17895 | 227.9785 | 1.18134 | 230.5020 |
| 7/32 | 1.17662 | 225.5472 | 1.17902 | 228.0572 | 1.18141 | 230.5811 |
| 1/4 | 1.17669 | 225.6254 | 1.17910 | 228.1359 | 1.18149 | 230.6602 |
| 9/32 | 1.17677 | 225.7037 | 1.17917 | 228.2145 | 1.18156 | 230.7393 |
| 5/16 | 1.17684 | 225.7819 | 1.17925 | 228.2932 | 1.18164 | 230.8184 |
| 11/32 | 1.17692 | 225.8602 | 1.17932 | 228.3719 | 1.18171 | 230.8975 |
| 3/8 | 1.17700 | 225.9385 | 1.17940 | 228.4506 | 1.18178 | 230.9767 |
| 13/32 | 1.17707 | 226.0168 | 1.17947 | 228.5294 | 1.18186 | 231.0558 |
| 7/16 | 1.17715 | 226.0951 | 1.17955 | 228.6081 | 1.18193 | 231.1350 |
| 15/32 | 1.17722 | 226.1734 | 1.17962 | 228.6869 | 1.18201 | 231.2142 |
| 1/2 | 1.17730 | 226.2517 | 1.17970 | 228.7656 | 1.18208 | 231.2934 |
| 17/32 | 1.17737 | 226.3301 | 1.17977 | 228.8444 | 1.18216 | 231.3726 |
| 9/16 | 1.17745 | 226.4084 | 1.17984 | 228.9232 | 1.18223 | 231.4519 |
| 19/32 | 1.17752 | 226.4868 | 1.17992 | 229.0020 | 1.18230 | 231.5311 |
| 5/8 | 1.17760 | 226.5652 | 1.17999 | 229.0808 | 1.18238 | 231.6104 |
| 21/32 | 1.17767 | 226.6436 | 1.18007 | 229.1597 | 1.18245 | 231.6896 |
| 11/16 | 1.17775 | 226.7220 | 1.18014 | 229.2385 | 1.18253 | 231.7689 |
| 23/32 | 1.17782 | 226.8005 | 1.18022 | 229.3174 | 1.18260 | 231.8482 |
| 3/4 | 1.17790 | 226.8789 | 1.18029 | 229.3963 | 1.18268 | 231.9275 |
| 25/32 | 1.17797 | 226.9574 | 1.18037 | 229.4752 | 1.18275 | 232.0068 |
| 13/16 | 1.17805 | 227.0358 | 1.18044 | 229.5541 | 1.18282 | 232.0862 |
| 27/32 | 1.17812 | 227.1143 | 1.18052 | 229.6330 | 1.18290 | 232.1655 |
| 7/8 | 1.17820 | 227.1928 | 1.18059 | 229.7119 | 1.18297 | 232.2449 |
| 29/32 | 1.17827 | 227.2713 | 1.18067 | 229.7909 | 1.18305 | 232.3243 |
| 15/16 | 1.17835 | 227.3499 | 1.18074 | 229.8698 | 1.18312 | 232.4037 |
| 31/32 | 1.17842 | 227.4284 | 1.18082 | 229.9488 | 1.18320 | 232.4831 |
| 1 | 1.17850 | 227.5069 | 1.18089 | 230.0278 | 1.18327 | 232.5625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.18327 | 232.5625 | 1.18564 | 235.1111 | 1.18799 | 237.6736 |
| 1/32 | 1.18334 | 232.6419 | 1.18571 | 235.1910 | 1.18806 | 237.7539 |
| 1/16 | 1.18342 | 232.7214 | 1.18578 | 235.2709 | 1.18814 | 237.8342 |
| 3/32 | 1.18349 | 232.8008 | 1.18586 | 235.3508 | 1.18821 | 237.9146 |
| 1/8 | 1.18357 | 232.8803 | 1.18593 | 235.4307 | 1.18828 | 237.9949 |
| 5/32 | 1.18364 | 232.9598 | 1.18601 | 235.5106 | 1.18836 | 238.0753 |
| 3/16 | 1.18371 | 233.0393 | 1.18608 | 235.5905 | 1.18843 | 238.1556 |
| 7/32 | 1.18379 | 233.1188 | 1.18615 | 235.6705 | 1.18850 | 238.2360 |
| 1/4 | 1.18386 | 233.1984 | 1.18623 | 235.7504 | 1.18858 | 238.3164 |
| 9/32 | 1.18394 | 233.2779 | 1.18630 | 235.8304 | 1.18865 | 238.3968 |
| 5/16 | 1.18401 | 233.3574 | 1.18637 | 235.9104 | 1.18872 | 238.4772 |
| 11/32 | 1.18408 | 233.4370 | 1.18645 | 235.9904 | 1.18880 | 238.5577 |
| 3/8 | 1.18416 | 233.5166 | 1.18652 | 236.0704 | 1.18887 | 238.6381 |
| 13/32 | 1.18423 | 233.5962 | 1.18659 | 236.1505 | 1.18894 | 238.7186 |
| 7/16 | 1.18431 | 233.6758 | 1.18667 | 236.2305 | 1.18902 | 238.7991 |
| 15/32 | 1.18438 | 233.7554 | 1.18674 | 236.3106 | 1.18909 | 238.8796 |
| 1/2 | 1.18445 | 233.8351 | 1.18682 | 236.3906 | 1.18916 | 238.9601 |
| 17/32 | 1.18453 | 233.9147 | 1.18689 | 236.4707 | 1.18924 | 239.0406 |
| 9/16 | 1.18460 | 233.9944 | 1.18696 | 236.5508 | 1.18931 | 239.1211 |
| 19/32 | 1.18468 | 234.0741 | 1.18704 | 236.6309 | 1.18938 | 239.2017 |
| 5/8 | 1.18475 | 234.1538 | 1.18711 | 236.7110 | 1.18946 | 239.2822 |
| 21/32 | 1.18482 | 234.2335 | 1.18718 | 236.7912 | 1.18953 | 239.3628 |
| 11/16 | 1.18490 | 234.3132 | 1.18726 | 236.8713 | 1.18960 | 239.4434 |
| 23/32 | 1.18497 | 234.3929 | 1.18733 | 236.9515 | 1.18967 | 239.5240 |
| 3/4 | 1.18505 | 234.4727 | 1.18740 | 237.0317 | 1.18975 | 239.6046 |
| 25/32 | 1.18512 | 234.5524 | 1.18748 | 237.1119 | 1.18982 | 239.6852 |
| 13/16 | 1.18519 | 234.6322 | 1.18755 | 237.1921 | 1.18989 | 239.7659 |
| 27/32 | 1.18527 | 234.7120 | 1.18762 | 237.2723 | 1.18997 | 239.8465 |
| 7/8 | 1.18534 | 234.7918 | 1.18770 | 237.3525 | 1.19004 | 239.9272 |
| 29/32 | 1.18542 | 234.8716 | 1.18777 | 237.4328 | 1.19011 | 240.0079 |
| 15/16 | 1.18549 | 234.9514 | 1.18784 | 237.5130 | 1.19019 | 240.0886 |
| 31/32 | 1.18556 | 235.0313 | 1.18792 | 237.5933 | 1.19026 | 240.1693 |
| 1 | 1.18564 | 235.1111 | 1.18799 | 237.6736 | 1.19033 | 240.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.19033 | 240.2500 | 1.19266 | 242.8403 | 1.19498 | 245.4444 |
| 1/32 | 1.19040 | 240.3307 | 1.19273 | 242.9214 | 1.19505 | 245.5260 |
| 1/16 | 1.19048 | 240.4115 | 1.19281 | 243.0026 | 1.19512 | 245.6077 |
| 3/32 | 1.19055 | 240.4922 | 1.19288 | 243.0838 | 1.19519 | 245.6893 |
| 1/8 | 1.19062 | 240.5730 | 1.19295 | 243.1650 | 1.19527 | 245.7709 |
| 5/32 | 1.19070 | 240.6538 | 1.19302 | 243.2463 | 1.19534 | 245.8526 |
| 3/16 | 1.19077 | 240.7346 | 1.19310 | 243.3275 | 1.19541 | 245.9343 |
| 7/32 | 1.19084 | 240.8154 | 1.19317 | 243.4088 | 1.19548 | 246.0160 |
| 1/4 | 1.19092 | 240.8963 | 1.19324 | 243.4900 | 1.19555 | 246.0977 |
| 9/32 | 1.19099 | 240.9771 | 1.19331 | 243.5713 | 1.19563 | 246.1794 |
| 5/16 | 1.19106 | 241.0580 | 1.19339 | 243.6526 | 1.19570 | 246.2611 |
| 11/32 | 1.19113 | 241.1388 | 1.19346 | 243.7339 | 1.19577 | 246.3428 |
| 3/8 | 1.19121 | 241.2197 | 1.19353 | 243.8152 | 1.19584 | 246.4246 |
| 13/32 | 1.19128 | 241.3006 | 1.19360 | 243.8965 | 1.19591 | 246.5064 |
| 7/16 | 1.19135 | 241.3815 | 1.19368 | 243.9779 | 1.19599 | 246.5881 |
| 15/32 | 1.19142 | 241.4625 | 1.19375 | 244.0593 | 1.19606 | 246.6699 |
| 1/2 | 1.19150 | 241.5434 | 1.19382 | 244.1406 | 1.19613 | 246.7517 |
| 17/32 | 1.19157 | 241.6244 | 1.19389 | 244.2220 | 1.19620 | 246.8336 |
| 9/16 | 1.19164 | 241.7053 | 1.19396 | 244.3034 | 1.19627 | 246.9154 |
| 19/32 | 1.19172 | 241.7863 | 1.19404 | 244.3848 | 1.19635 | 246.9972 |
| 5/8 | 1.19179 | 241.8673 | 1.19411 | 244.4663 | 1.19642 | 247.0791 |
| 21/32 | 1.19186 | 241.9483 | 1.19418 | 244.5477 | 1 19649 | 247.1610 |
| 11/16 | 1.19193 | 242.0293 | 1.19425 | 244.6292 | 1.19656 | 247.2429 |
| 23/32 | 1.19201 | 242.1104 | 1.19433 | 244.7106 | 1.19663 | 247.3248 |
| 3/4 | 1.19208 | 242.1914 | 1.19440 | 244.7921 | 1.19671 | 247.4067 |
| 25/32 | 1.19215 | 242.2725 | 1.19447 | 244.8736 | 1.19678 | 247.4886 |
| 13/16 | 1.19222 | 242.3535 | 1.19454 | 244.9551 | 1.19685 | 247.5706 |
| 27/32 | 1.19230 | 242.4346 | 1.19462 | 245.0366 | 1.19692 | 247.6525 |
| 7/8 | 1.19237 | 242.5157 | 1.19469 | 245.1182 | 1.19699 | 247.7345 |
| 29/32 | 1.19244 | 242.5968 | 1.19476 | 245.1997 | 1.19707 | 247.8165 |
| 15/16 | 1.19252 | 242 6780 | 1.19483 | 245.2813 | 1.19714 | 247.8985 |
| 31/32 | 1.19259 | 242.7591 | 1.19490 | 245.3629 | 1.19721 | 247.9805 |
| 1 | 1.19266 | 242.8403 | 1.19498 | 245.4444 | 1.19728 | 248.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.19728 | 248.0625 | 1.19957 | 250.6944 | 1.20185 | 253.3403 |
| 1/32 | 1.19735 | 248.1445 | 1.19964 | 250.7769 | 1.20192 | 253.4232 |
| 1/16 | 1.19742 | 248.2266 | 1.19972 | 250.8594 | 1.20199 | 253.5061 |
| 3/32 | 1.19750 | 248.3087 | 1.19979 | 250.9419 | 1.20207 | 253.5890 |
| 1/8 | 1.19757 | 248.3907 | 1.19986 | 251.0244 | 1.20214 | 253.6720 |
| 5/32 | 1.19764 | 248.4728 | 1.19993 | 251.1069 | 1.20221 | 253.7549 |
| 3/16 | 1.19771 | 248.5549 | 1.20000 | 251.1895 | 1.20228 | 253.8379 |
| 7/32 | 1.19778 | 248.6371 | 1.20007 | 251.2720 | 1.20235 | 253.9209 |
| 1/4 | 1.19785 | 248.7192 | 1.20014 | 251.3546 | 1.20242 | 254.0039 |
| 9/32 | 1.19793 | 248.8013 | 1.20021 | 251.4372 | 1.20249 | 254.0869 |
| 5/16 | 1.19800 | 248.8835 | 1.20029 | 251.5198 | 1.20256 | 254.1699 |
| 11/32 | 1.19807 | 248.9657 | 1.20036 | 251.6024 | 1.20263 | 254.2530 |
| 3/8 | 1.19814 | 249.0479 | 1.20043 | 251.6850 | 1.20270 | 254.3360 |
| 13/32 | 1.19821 | 249.1301 | 1.20050 | 251.7676 | 1.20277 | 254.4191 |
| 7/16 | 1.19828 | 249.2123 | 1.20057 | 251.8503 | 1.20285 | 254.5022 |
| 15/32 | 1.19836 | 249.2945 | 1.20064 | 251.9329 | 1.20292 | 254.5853 |
| 1/2 | 1.19843 | 249.3767 | 1.20071 | 252.0156 | 1.20299 | 254.6684 |
| 17/32 | 1.19850 | 249.4590 | 1.20078 | 252.0983 | 1.20306 | 254.7515 |
| 9/16 | 1.19857 | 249.5413 | 1.20086 | 252.1810 | 1.20313 | 254.8347 |
| 19/32 | 1.19864 | 249.6235 | 1.20093 | 252.2637 | 1.20320 | 254.9178 |
| 5/8 | 1.19871 | 249.7058 | 1.20100 | 252.3465 | 1.20327 | 255.0010 |
| 21/32 | 1.19879 | 249.7881 | 1.20107 | 252.4292 | 1.20334 | 255.0842 |
| 11/16 | 1.19886 | 249.8705 | 1.20114 | 252.5120 | 1.20341 | 255.1673 |
| 23/32 | 1.19893 | 249.9528 | 1.20121 | 252.5947 | 1.20348 | 255.2505 |
| 3/4 | 1.19900 | 250.0352 | 1.20128 | 252.6775 | 1.20355 | 255.3338 |
| 25/32 | 1.19907 | 250.1175 | 1.20135 | 252.7603 | 1.20362 | 255.4170 |
| 13/16 | 1.19914 | 250.1999 | 1.20143 | 252.8431 | 1.20370 | 255.5002 |
| 27/32 | 1.19922 | 250.2823 | 1.20150 | 252.9260 | 1.20377 | 255.5835 |
| 7/8 | 1.19929 | 250.3647 | 1.20157 | 253.0088 | 1.20384 | 255.6668 |
| 29/32 | 1.19936 | 250.4471 | 1.20164 | 253.0916 | 1.20391 | 255.7501 |
| 15/16 | 1.19943 | 250.5295 | 1.20171 | 253.1745 | 1.20398 | 255.8334 |
| 31/32 | 1.19950 | 250.6120 | 1.20178 | 253.2574 | 1.20405 | 255.9167 |
| 1 | 1.19957 | 250.6944 | 1.20185 | 253.3403 | 1.20412 | 256.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.20412 | 256.0000 | 1.20638 | 258.6736 | 1.20862 | 261.3611 |
| 1/32 | 1.20419 | 256.0833 | 1.20645 | 258.7574 | 1.20869 | 261.4453 |
| 1/16 | 1.20426 | 256.1667 | 1.20652 | 258.8412 | 1.20876 | 261.5295 |
| 3/32 | 1.20433 | 256.2501 | 1.20659 | 258.9250 | 1.20883 | 261.6138 |
| 1/8 | 1.20440 | 256.3334 | 1.20666 | 259.0088 | 1.20890 | 261.6980 |
| 5/32 | 1.20447 | 256.4168 | 1.20673 | 259.0926 | 1.20897 | 261.7823 |
| 3/16 | 1.20454 | 256.5002 | 1.20680 | 259.1765 | 1.20904 | 261.8666 |
| 7/32 | 1.20461 | 256.5837 | 1.20687 | 259.2603 | 1.20911 | 261.9509 |
| 1/4 | 1.20469 | 256.6671 | 1.20694 | 259.3442 | 1.20918 | 262.0352 |
| 9/32 | 1.20476 | 256.7505 | 1.20701 | 259.4281 | 1.20925 | 262.1195 |
| 5/16 | 1.20483 | 256.8340 | 1.20708 | 259.5120 | 1.20932 | 262.2038 |
| 11/32 | 1.20490 | 256.9175 | 1.20715 | 259.5959 | 1.20939 | 262.2881 |
| 3/8 | 1.20497 | 257.0010 | 1.20722 | 259.6798 | 1.20946 | 262.3725 |
| 13/32 | 1.20504 | 257.0845 | 1.20729 | 259.7637 | 1.20953 | 262.4569 |
| 7/16 | 1.20511 | 257.1680 | 1.20736 | 259.8477 | 1.20960 | 262.5413 |
| 15/32 | 1.20518 | 257.2515 | 1.20743 | 259.9316 | 1.20967 | 262.6257 |
| 1/2 | 1.20525 | 257.3351 | 1.20750 | 260.0156 | 1.20974 | 262.7101 |
| 17/32 | 1.20532 | 257.4186 | 1.20757 | 260.0996 | 1.20981 | 262.7945 |
| 9/16 | 1.20539 | 257.5022 | 1.20764 | 260.1836 | 1.20988 | 262.8789 |
| 19/32 | 1.20546 | 257.5858 | 1.20771 | 260.2676 | 1.20995 | 262.9634 |
| 5/8 | 1.20553 | 257.6694 | 1.20778 | 260.3517 | 1.21002 | 263.0479 |
| 21/32 | 1.20560 | 257.7530 | 1.20785 | 260.4357 | 1.21009 | 263.1323 |
| 11/16 | 1.20567 | 257.8366 | 1.20792 | 260.5198 | 1.21016 | 263.2168 |
| 23/32 | 1.20574 | 257.9203 | 1.20799 | 260.6038 | 1.21023 | 263.3013 |
| 3/4 | 1.20581 | 258.0039 | 1.20806 | 260.6879 | 1.21030 | 263.3859 |
| 25/32 | 1.20588 | 258.0876 | 1.20813 | 260.7720 | 1.21037 | 263.4704 |
| 13/16 | 1.20595 | 258.1713 | 1.20820 | 260.8561 | 1.21044 | 263.5549 |
| 27/32 | 1.20602 | 258.2549 | 1.20827 | 260.9403 | 1.21051 | 263.6395 |
| 7/8 | 1.20609 | 258.3386 | 1.20834 | 261.0244 | 1.21057 | 263.7241 |
| 29/32 | 1.20617 | 258.4224 | 1.20841 | 261.1086 | 1.21064 | 263.8087 |
| 15/16 | 1.20624 | 258.5061 | 1.20848 | 261.1927 | 1.21071 | 263.8933 |
| 31/32 | 1.20631 | 258.5899 | 1.20855 | 261.2769 | 1.21078 | 263.9779 |
| 1 | 1.20638 | 258.6736 | 1.20862 | 261.3611 | 1.21085 | 264.0625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.21085 | 264.0625 | 1.21307 | 266.7778 | 1.21528 | 269.5069 |
| 1/32 | 1.21092 | 264.1471 | 1.21314 | 266.8629 | 1.21535 | 269.5925 |
| 1/16 | 1.21099 | 264.2318 | 1.21321 | 266.9479 | 1.21542 | 269.6780 |
| 3/32 | 1.21106 | 264.3165 | 1.21328 | 267.0330 | 1.21549 | 269.7635 |
| 1/8 | 1.21113 | 264.4012 | 1.21335 | 267.1182 | 1.21556 | 269.8491 |
| 5/32 | 1.21120 | 264.4858 | 1.21342 | 267.2033 | 1.21563 | 269.9346 |
| 3/16 | 1.21127 | 264.5706 | 1.21349 | 267.2884 | 1.21570 | 270.0202 |
| 7/32 | 1.21134 | 264.6553 | 1.21356 | 267.3736 | 1.21577 | 270.1058 |
| 1/4 | 1.21141 | 264.7400 | 1.21363 | 267.4588 | 1.21584 | 270.1914 |
| 9/32 | 1.21148 | 264.8248 | 1.21370 | 267.5440 | 1.21590 | 270.2770 |
| 5/16 | 1.21155 | 264.9095 | 1.21377 | 267.6292 | 1.21597 | 270.3627 |
| 11/32 | 1.21162 | 264.9943 | 1.21384 | 267.7144 | 1.21604 | 270.4483 |
| 3/8 | 1.21169 | 265.0791 | 1.21390 | 267.7996 | 1.21611 | 270.5340 |
| 13/32 | 1.21176 | 265.1639 | 1.21397 | 267.8848 | 1.21618 | 270.6196 |
| 7/16 | 1.21183 | 265.2487 | 1.21404 | 267.9701 | 1.21625 | 270.7053 |
| 15/32 | 1.21190 | 265.3336 | 1.21411 | 268.0553 | 1.21632 | 270.7910 |
| 1/2 | 1.21197 | 265.4184 | 1.21418 | 268.1406 | 1.21639 | 270.8767 |
| 17/32 | 1.21203 | 265.5033 | 1.21425 | 268.2259 | 1.21645 | 270.9625 |
| 9/16 | 1.21210 | 265.5881 | 1.21432 | 268.3112 | 1.21652 | 271.0482 |
| 19/32 | 1.21217 | 265.6730 | 1.21439 | 268.3965 | 1.21659 | 271.1340 |
| 5/8 | 1.21224 | 265.7579 | 1.21446 | 268.4819 | 1.21666 | 271.2197 |
| 21/32 | 1.21231 | 265.8428 | 1.21453 | 268.5672 | 1.21673 | 271.3055 |
| 11/16 | 1.21238 | 265.9278 | 1.21460 | 268.6526 | 1.21680 | 271.3913 |
| 23/32 | 1.21245 | 266.0127 | 1.21466 | 268.7380 | 1.21687 | 271.4771 |
| 3/4 | 1.21252 | 266.0977 | 1.21473 | 268.8234 | 1.21694 | 271.5629 |
| 25/32 | 1.21259 | 266.1826 | 1.21480 | 268.9088 | 1.21700 | 271.6488 |
| 13/16 | 1.21266 | 266.2676 | 1.21487 | 268.9942 | 1.21707 | 271.7346 |
| 27/32 | 1.21273 | 266.3526 | 1.21494 | 269.0796 | 1.21714 | 271.8205 |
| 7/8 | 1.21280 | 266.4376 | 1.21501 | 269.1650 | 1.21721 | 271.9064 |
| 29/32 | 1.21287 | 266.5226 | 1.21508 | 269.2505 | 1.21728 | 271.9922 |
| 15/16 | 1.21294 | 266.6077 | 1.21515 | 269.3360 | 1.21735 | 272.0782 |
| 31/32 | 1.21301 | 266.6927 | 1.21522 | 269.4214 | 1.21742 | 272.1641 |
| 1 | 1.21307 | 266.7778 | 1.21528 | 269.5069 | 1.21748 | 272.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.21748 | 272.2500 | 1.21967 | 275.0069 | 1.22185 | 277.7778 |
| 1/32 | 1.21755 | 272.3359 | 1.21974 | 275.0933 | 1.22192 | 277.8646 |
| 1/16 | 1.21762 | 272.4219 | 1.21981 | 275.1797 | 1.22198 | 277.9514 |
| 3/32 | 1.21769 | 272.5079 | 1.21988 | 275.2661 | 1.22205 | 278.0383 |
| 1/8 | 1.21776 | 272.5939 | 1.21994 | 275.3525 | 1.22212 | 278.1251 |
| 5/32 | 1.21783 | 272.6799 | 1.22001 | 275.4390 | 1.22219 | 278.2120 |
| 3/16 | 1.21790 | 272.7659 | 1.22008 | 275.5254 | 1.22226 | 278.2989 |
| 7/32 | 1.21796 | 272.8519 | 1.22015 | 275.6119 | 1.22232 | 278.3857 |
| 1/4 | 1.21803 | 272.9379 | 1.22022 | 275.6984 | 1.22239 | 278.4727 |
| 9/32 | 1.21810 | 273.0240 | 1.22029 | 275.7848 | 1.22246 | 278.5596 |
| 5/16 | 1.21817 | 273.1101 | 1.22035 | 275.8713 | 1.22253 | 278.6465 |
| 11/32 | 1.21824 | 273.1961 | 1.22042 | 275.9579 | 1.22259 | 278.7335 |
| 3/8 | 1.21831 | 273.2822 | 1.22049 | 276.0444 | 1.22266 | 278.8204 |
| 13/32 | 1.21837 | 273.3683 | 1.22056 | 276.1309 | 1.22273 | 278.9074 |
| 7/16 | 1.21844 | 273.4545 | 1.22063 | 276.2175 | 1.22280 | 278.9944 |
| 15/32 | 1.21851 | 273.5406 | 1.22069 | 276.3040 | 1.22287 | 279.0814 |
| 1/2 | 1.21858 | 273.6267 | 1.22076 | 276.3906 | 1.22293 | 279.1684 |
| 17/32 | 1.21865 | 273.7129 | 1.22083 | 276.4772 | 1.22300 | 279.2554 |
| 9/16 | 1.21872 | 273.7991 | 1.22090 | 276.5638 | 1.22307 | 279.3425 |
| 19/32 | 1.21878 | 273.8853 | 1.22097 | 276.6505 | 1.22314 | 279.4295 |
| 5/8 | 1.21885 | 273.9715 | 1.22103 | 276.7371 | 1.22320 | 279.5166 |
| 21/32 | 1 21892 | 274.0577 | 1.22110 | 276.8237 | 1.22327 | 279.6037 |
| 11/16 | 1.21899 | 274.1439 | 1.22117 | 276.9104 | 1.22334 | 279.6908 |
| 23/32 | 1.21906 | 274.2302 | 1.22124 | 276.9971 | 1.22341 | 279.7779 |
| 3/4 | 1.21913 | 274.3164 | 1.22131 | 277.0838 | 1.22347 | 279.8650 |
| 25/32 | 1.21919 | 274.4027 | 1.22137 | 277.1705 | 1.22354 | 279.9522 |
| 13/16 | 1.21926 | 274.4890 | 1.22144 | 277.2572 | 1.22361 | 280.0393 |
| 27/32 | 1.21933 | 274.5753 | 1.22151 | 277.3439 | 1.22368 | 280.1265 |
| 7/8 | 1.21940 | 274.6616 | 1.22158 | 277.4307 | 1.22374 | 280.2137 |
| 29/32 | 1.21947 | 274.7479 | 1.22165 | 277.5174 | 1.22381 | 280.3008 |
| 15/16 | 1.21954 | 274.8342 | 1.22171 | 277.6042 | 1.22388 | 280.3880 |
| 31/32 | 1.21960 | 274.9206 | 1.22178 | 277.6910 | 1.22395 | 280.4753 |
| 1 | 1.21967 | 275.0069 | 1.22185 | 277.7778 | 1.22401 | 280.5625 |

| Fractions of an inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.22401 | 280.5625 | 1.22617 | 283.3611 | 1.22831 | 286.1736 |
| 1/32 | 1.22408 | 280.6497 | 1.22624 | 283.4488 | 1.22838 | 286.2617 |
| 1/16 | 1.22415 | 280.7370 | 1.22630 | 283.5365 | 1.22845 | 286.3499 |
| 3/32 | 1.22422 | 280.8243 | 1.22637 | 283.6242 | 1.22852 | 286.4380 |
| 1/8 | 1.22428 | 280.9116 | 1.22644 | 283.7119 | 1.22858 | 286.5262 |
| 5/32 | 1.22435 | 280.9989 | 1.22651 | 283.7996 | 1.22865 | 286.6143 |
| 3/16 | 1.22442 | 281.0862 | 1.22657 | 283.8874 | 1.22872 | 286.7025 |
| 7/32 | 1.22449 | 281.1735 | 1.22664 | 283.9752 | 1.22878 | 286.7907 |
| 1/4 | 1.22455 | 281.2609 | 1.22671 | 284.0629 | 1.22885 | 286.8789 |
| 9/32 | 1.22462 | 281.3482 | 1.22677 | 284.1507 | 1.22892 | 286.9671 |
| 5/16 | 1.22469 | 281.4356 | 1.22684 | 284.2385 | 1.22898 | 287.0554 |
| 11/32 | 1.22476 | 281.5230 | 1.22691 | 284.3263 | 1.22905 | 287.1436 |
| 3/8 | 1.22482 | 281.6104 | 1.22698 | 284.4142 | 1.22912 | 287.2319 |
| 13/32 | 1.22489 | 281.6978 | 1.22704 | 284.5020 | 1.22918 | 287.3202 |
| 7/16 | 1.22496 | 281.7852 | 1.22711 | 284.5899 | 1.22925 | 287.4084 |
| 15/32 | 1.22503 | 281.8726 | 1.22718 | 284.6777 | 1.22932 | 287.4968 |
| 1/2 | 1.22509 | 281.9601 | 1.22724 | 284.7656 | 1.22938 | 287.5851 |
| 17/32 | 1.22516 | 282.0475 | 1.22731 | 284 8535 | 1.22945 | 287.6734 |
| 9/16 | 1.22523 | 282.1350 | 1.22738 | 284.9414 | 1.22952 | 287.7617 |
| 19/32 | 1.22530 | 282.2225 | 1.22744 | 285.0294 | 1.22958 | 287.8501 |
| 5/8 | 1.22536 | 282.3100 | 1.22751 | 285.1173 | 1.22965 | 287.9385 |
| 21/32 | 1.22543 | 282.3975 | 1.22758 | 285.2052 | 1.22972 | 288.0269 |
| 11/16 | 1.22550 | 282.4851 | 1.22765 | 285.2932 | 1.22978 | 288.1153 |
| 23/32 | 1.22557 | 282.5726 | 1.22771 | 285.3812 | 1.22985 | 288.2037 |
| 3/4 | 1.22563 | 282.6602 | 1.22778 | 285.4692 | 1.22992 | 288.2921 |
| 25/32 | 1.22570 | 282.7477 | 1.22785 | 285.5572 | 1.22998 | 288.3805 |
| 13/16 | 1.22577 | 282.8353 | 1.22791 | 285.6452 | 1.23005 | 288.4690 |
| 27/32 | 1.22583 | 282.9229 | 1.22798 | 285.7332 | 1.23012 | 288.5575 |
| 7/8 | 1.22590 | 283.0105 | 1.22805 | 285.8213 | 1.23018 | 288.6459 |
| 29/32 | 1.22597 | 283.0982 | 1.22811 | 285.9093 | 1.23025 | 288.7344 |
| 15/16 | 1.22604 | 283.1858 | 1.22818 | 285.9974 | 1.23032 | 288.8229 |
| 31/32 | 1.22610 | 283.2734 | 1.22825 | 286.0855 | 1.23038 | 288.9115 |
| 1 | 1.22617 | 283.3611 | 1.22831 | 286.1736 | 1.23045 | 289.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.23045 | 289.0000 | 1.23257 | 291.8403 | 1.23469 | 294.6944 |
| 1/32 | 1.23052 | 289.0885 | 1.23264 | 291.9293 | 1.23475 | 294.7839 |
| 1/16 | 1.23058 | 289.1771 | 1.23271 | 292.0183 | 1.23482 | 294.8733 |
| 3/32 | 1.23065 | 289.2657 | 1.23277 | 292.1073 | 1.23488 | 294.9627 |
| 1/8 | 1.23071 | 289.3543 | 1.23284 | 292.1963 | 1.23495 | 295.0522 |
| 5/32 | 1.23078 | 289.4429 | 1.23290 | 292.2853 | 1.23502 | 295.1417 |
| 3/16 | 1.23085 | 289.5315 | 1.23297 | 292.3744 | 1.23508 | 295.2311 |
| 7/32 | 1.23091 | 289.6201 | 1.23304 | 292.4634 | 1.23515 | 295.3206 |
| 1/4 | 1.23098 | 289.7088 | 1.23310 | 292.5525 | 1.23521 | 295.4102 |
| 9/32 | 1.23105 | 289.7974 | 1.23317 | 292.6416 | 1.23528 | 295.4997 |
| 5/16 | 1.23111 | 289.8861 | 1.23323 | 292.7307 | 1.23534 | 295.5892 |
| 11/32 | 1.23118 | 289.9748 | 1.23330 | 292.8198 | 1.23541 | 295.6788 |
| 3/8 | 1.23125 | 290.0635 | 1.23337 | 292.9090 | 1.23548 | 295.7683 |
| 13/32 | 1.23131 | 290.1522 | 1.23343 | 292.9981 | 1.23554 | 295.8579 |
| 7/16 | 1.23138 | 290.2409 | 1.23350 | 293.0873 | 1.23561 | 295.9475 |
| 15/32 | 1.23145 | 290.3297 | 1.23356 | 293.1764 | 1.23567 | 296.0371 |
| 1/2 | 1.23151 | 290.4184 | 1.23363 | 293.2656 | 1.23574 | 296.1267 |
| 17/32 | 1.23158 | 290.5072 | 1.23370 | 293.3548 | 1.23580 | 296.2164 |
| 9/16 | 1.23164 | 290.5959 | 1.23376 | 293.4440 | 1.23587 | 296.3060 |
| 19/32 | 1.23171 | 290.6847 | 1.23383 | 293.5333 | 1.23594 | 296.3957 |
| 5/8 | 1.23178 | 290.7735 | 1.23389 | 293.6225 | 1.23600 | 296.4854 |
| 21/32 | 1.23184 | 290.8624 | 1.23396 | 293.7118 | 1.23607 | 296.5750 |
| 11/16 | 1.23191 | 290.9512 | 1.23403 | 293.8010 | 1.23613 | 296.6647 |
| 23/32 | 1.23198 | 291.0400 | 1.23409 | 293.8903 | 1.23620 | 296.7545 |
| 3/4 | 1.23204 | 291.1289 | 1.23416 | 293.9796 | 1.23626 | 296.8442 |
| 25/32 | 1.23211 | 291.2178 | 1.23422 | 294.0689 | 1.23633 | 296.9339 |
| 13/16 | 1.23218 | 291.3067 | 1.23429 | 294.1582 | 1.23640 | 297.0237 |
| 27/32 | 1.23224 | 291.3956 | 1.23436 | 294.2476 | 1.23646 | 297.1135 |
| 7/8 | 1.23231 | 291.4845 | 1.23442 | 294.3369 | 1.23653 | 297.2032 |
| 29/32 | 1.23237 | 291.5734 | 1.23449 | 294.4263 | 1.23659 | 297.2930 |
| 15/16 | 1.23244 | 291.6624 | 1.23455 | 294.5157 | 1.23666 | 297.3828 |
| 31/32 | 1.23251 | 291.7513 | 1.23462 | 294.6050 | 1.23672 | 297.4727 |
| 1 | 1.23257 | 291.8403 | 1.23469 | 294.6944 | 1.23679 | 297.5625 |

| Fractions of an inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.23679 | 297.5625 | 1.23888 | 300.4444 | 1.24097 | 303.3403 |
| 1/32 | 1.23685 | 297.6524 | 1.23895 | 300.5347 | 1.24103 | 303.4310 |
| 1/16 | 1.23692 | 297.7422 | 1.23901 | 300.6250 | 1.24109 | 303.5217 |
| 3/32 | 1.23699 | 297.8321 | 1.23908 | 300.7153 | 1.24116 | 303.6125 |
| 1/8 | 1.23705 | 297.9220 | 1.23914 | 300.8057 | 1.24122 | 303.7032 |
| 5/32 | 1.23712 | 298.0119 | 1.23921 | 300.8960 | 1.24129 | 303.7940 |
| 3/16 | 1.23718 | 298.1018 | 1.23927 | 300.9864 | 1.24135 | 303.8848 |
| 7/32 | 1.23725 | 298.1917 | 1.23934 | 301.0767 | 1.24142 | 303.9756 |
| 1/4 | 1.23731 | 298.2817 | 1.23940 | 301.1671 | 1.24148 | 304.0664 |
| 9/32 | 1.23738 | 298.3716 | 1.23947 | 301.2575 | 1.24155 | 304.1572 |
| 5/16 | 1.23744 | 298.4616 | 1.23953 | 301.3479 | 1.24161 | 304.2481 |
| 11/32 | 1.23751 | 298.5516 | 1.23960 | 301.4383 | 1.24168 | 304.3389 |
| 3/8 | 1.23758 | 298.6416 | 1.23966 | 301.5288 | 1.24174 | 304.4298 |
| 13/32 | 1.23764 | 298.7316 | 1.23973 | 301.6192 | 1.24181 | 304.5207 |
| 7/16 | 1.23771 | 298.8216 | 1.23979 | 301.7097 | 1.24187 | 304.6116 |
| 15/32 | 1.23777 | 298.9117 | 1.23986 | 301.8001 | 1.24194 | 304.7025 |
| 1/2 | 1.23784 | 299.0017 | 1.23992 | 301.8906 | 1.24200 | 304.7934 |
| 17/32 | 1.23790 | 299.0918 | 1.23999 | 301.9811 | 1.24207 | 304.8843 |
| 9/16 | 1.23797 | 299.1819 | 1.24005 | 302.0716 | 1.24213 | 304.9753 |
| 19/32 | 1.23803 | 299.2720 | 1.24012 | 302.1622 | 1.24220 | 305.0663 |
| 5/8 | 1.23810 | 299.3621 | 1.24019 | 302.2527 | 1.24226 | 305.1572 |
| 21/32 | 1.23816 | 299.4522 | 1.24025 | 302.3433 | 1.24233 | 305.2482 |
| 11/16 | 1.23823 | 299.5423 | 1.24032 | 302.4338 | 1.24239 | 305.3392 |
| 23/32 | 1.23829 | 299.6325 | 1.24038 | 302.5244 | 1.24246 | 305.4302 |
| 3/4 | 1.23836 | 299.7227 | 1.24045 | 302.6150 | 1.24252 | 305.5213 |
| 25/32 | 1.23843 | 299.8128 | 1.24051 | 302.7056 | 1.24259 | 305.6123 |
| 13/16 | 1.23849 | 299.9030 | 1.24058 | 302.7963 | 1.24265 | 305.7034 |
| 27/32 | 1.23856 | 299.9932 | 1.24064 | 302.8869 | 1.24271 | 305.7944 |
| 7/8 | 1.23862 | 300.0834 | 1.24071 | 302.9775 | 1.24278 | 305.8855 |
| 29/32 | 1.23869 | 300.1737 | 1.24077 | 303.0682 | 1.24284 | 305.9766 |
| 15/16 | 1.23875 | 300.2639 | 1.24084 | 303.1589 | 1.24291 | 306.0677 |
| 31/32 | 1.23882 | 300.3542 | 1.24090 | 303.2496 | 1.24297 | 306.1589 |
| 1 | 1.23888 | 300.4444 | 1.24097 | 303.3403 | 1.24304 | 306.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.24304 | 306.2500 | 1.24510 | 309.1736 | 1.24715 | 312.1111 |
| 1/32 | 1.24310 | 306.3412 | 1.24517 | 309.2652 | 1.24722 | 312.2031 |
| 1/16 | 1.24317 | 306.4323 | 1.24523 | 309.3568 | 1.24728 | 312.2952 |
| 3/32 | 1.24323 | 306.5235 | 1.24529 | 309.4484 | 1.24735 | 312.3872 |
| 1/8 | 1.24330 | 306.6147 | 1.24536 | 309.5400 | 1.24741 | 312.4793 |
| 5/32 | 1.24336 | 306.7059 | 1.24542 | 309.6317 | 1.24747 | 312.5714 |
| 3/16 | 1.24343 | 306.7971 | 1.24549 | 309.7233 | 1.24754 | 312.6634 |
| 7/32 | 1.24349 | 306.8884 | 1.24555 | 309.8150 | 1.24760 | 312.7555 |
| 1/4 | 1.24355 | 306.9796 | 1.24562 | 309.9067 | 1.24767 | 312.8477 |
| 9/32 | 1.24362 | 307.0709 | 1.24568 | 309.9984 | 1.24773 | 312.9398 |
| 5/16 | 1.24368 | 307.1621 | 1.24574 | 310.0901 | 1.24779 | 313.0319 |
| 11/32 | 1.24375 | 307.2534 | 1.24581 | 310.1818 | 1.24786 | 313.1241 |
| 3/8 | 1.24381 | 307.3447 | 1.24587 | 310.2735 | 1.24792 | 313.2163 |
| 13/32 | 1.24388 | 307.4360 | 1.24594 | 310.3653 | 1.24799 | 313.3084 |
| 7/16 | 1.24394 | 307.5274 | 1.24600 | 310.4571 | 1.24805 | 313.4006 |
| 15/32 | 1.24401 | 307.6187 | 1.24606 | 310.5488 | 1.24811 | 313.4928 |
| 1/2 | 1.24407 | 307.7101 | 1.24613 | 310.6406 | 1.24818 | 313.5851 |
| 17/32 | 1.24414 | 307.8014 | 1.24619 | 310.7324 | 1.24824 | 313.6773 |
| 9/16 | 1.24420 | 307.8928 | 1.24626 | 310.8242 | 1.24831 | 313.7696 |
| 19/32 | 1.24426 | 307.9842 | 1.24632 | 310.9161 | 1.24837 | 313.8618 |
| 5/8 | 1.24433 | 308.0756 | 1.24639 | 311.0079 | 1.24843 | 313.9541 |
| 21/32 | 1.24439 | 308.1671 | 1.24645 | 311.0998 | 1.24850 | 314.0464 |
| 11/16 | 1.24446 | 308.2585 | 1.24651 | 311.1917 | 1.24856 | 314.1387 |
| 23/32 | 1.24452 | 308.3499 | 1.24658 | 311.2835 | 1.24862 | 314.2310 |
| 3/4 | 1.24459 | 308.4414 | 1.24664 | 311.3754 | 1.24869 | 314.3234 |
| 25/32 | 1.24465 | 308.5329 | 1.24671 | 311.4673 | 1.24875 | 314.4157 |
| 13/16 | 1.24472 | 308.6244 | 1.24677 | 311.5593 | 1.24882 | 314.5081 |
| 27/32 | 1.24478 | 308.7159 | 1.24683 | 311.6512 | 1.24888 | 314.6004 |
| 7/8 | 1.24484 | 308.8074 | 1.24690 | 311.7432 | 1.24894 | 314.6928 |
| 29/32 | 1.24491 | 308.8989 | 1.24696 | 311.8351 | 1.24901 | 314.7852 |
| 15/16 | 1.24497 | 308.9905 | 1.24703 | 311.9271 | 1.24907 | 314.8776 |
| 31/32 | 1.24504 | 309.0820 | 1.24709 | 312.0191 | 1.24913 | 314.9701 |
| 1 | 1.24510 | 309.1736 | 1.24715 | 312.1111 | 1.24920 | 315.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.24920 | 315.0625 | 1.25123 | 318.0278 | 1.25326 | 321.0069 |
| 1/32 | 1.24926 | 315.1550 | 1.25130 | 318.1207 | 1.25332 | 321.1003 |
| 1/16 | 1.24933 | 315.2474 | 1.25136 | 318.2136 | 1.25338 | 321.1936 |
| 3/32 | 1.24939 | 315.3399 | 1.25142 | 318.3065 | 1.25345 | 321.2870 |
| 1/8 | 1.24945 | 315.4324 | 1.25149 | 318.3994 | 1.25351 | 321.3803 |
| 5/32 | 1.24952 | 315.5249 | 1.25155 | 318.4924 | 1.25357 | 321.4737 |
| 3/16 | 1.24958 | 315.6174 | 1.25161 | 318.5853 | 1.25364 | 321.5671 |
| 7/32 | 1.24964 | 315.7100 | 1.25168 | 318.6783 | 1.25370 | 321.6605 |
| 1/4 | 1.24971 | 315.8025 | 1.25174 | 318.7713 | 1.25376 | 321.7539 |
| 9/32 | 1.24977 | 315.8951 | 1.25180 | 318.8643 | 1.25382 | 321.8473 |
| 5/16 | 1.24984 | 315.9877 | 1.25187 | 318.9573 | 1.25389 | 321.9408 |
| 11/32 | 1.24990 | 316.0802 | 1.25193 | 319.0503 | 1.25395 | 322.0342 |
| 3/8 | 1.24996 | 316.1729 | 1.25199 | 319.1433 | 1.25401 | 322.1277 |
| 13/32 | 1.25003 | 316.2655 | 1.25206 | 319.2364 | 1.25408 | 322.2212 |
| 7/16 | 1.25009 | 316.3581 | 1.25212 | 319.3295 | 1.25414 | 322.3147 |
| 15/32 | 1.25015 | 316.4507 | 1.25218 | 319.4225 | 1.25420 | 322.4082 |
| 1/2 | 1.25022 | 316.5434 | 1.25225 | 319.5156 | 1.25427 | 322.5017 |
| 17/32 | 1.25028 | 316.6361 | 1.25231 | 319.6087 | 1.25433 | 322.5953 |
| 9/16 | 1.25034 | 316.7288 | 1.25237 | 319.7019 | 1.25439 | 322.6888 |
| 19/32 | 1.25041 | 316.8215 | 1.25244 | 319.7950 | 1.25445 | 322.7824 |
| 5/8 | 1.25047 | 316.9142 | 1.25250 | 319.8881 | 1.25452 | 322.8760 |
| 21/32 | 1.25053 | 317.0069 | 1.25256 | 319.9813 | 1.25458 | 322.9696 |
| 11/16 | 1.25060 | 317.0996 | 1.25263 | 320.0745 | 1.25464 | 323.0632 |
| 23/32 | 1.25066 | 317.1924 | 1.25269 | 320.1676 | 1.25471 | 323.1568 |
| 3/4 | 1.25072 | 317.2852 | 1.25275 | 320.2609 | 1.25477 | 323.2504 |
| 25/32 | 1.25079 | 317.3779 | 1.25282 | 320.3541 | 1.25483 | 323.3441 |
| 13/16 | 1.25085 | 317.4707 | 1.25288 | 320.4473 | 1.25490 | 323.4377 |
| 27/32 | 1.25092 | 317.5635 | 1.25294 | 320.5405 | 1.25496 | 323.5314 |
| 7/8 | 1.25098 | 317.6564 | 1.25300 | 320.6338 | 1.25502 | 323.6251 |
| 29/32 | 1.25104 | 317.7492 | 1.25307 | 320.7271 | 1.25508 | 323.7188 |
| 15/16 | 1.25111 | 317.8420 | 1.25313 | 320.8203 | 1.25515 | 323.8125 |
| 31/32 | 1.25117 | 317.9349 | 1.25319 | 320.9136 | 1.25521 | 323.9063 |
| 1 | 1.25123 | 318.0278 | 1.25326 | 321.0069 | 1.25527 | 324.0000 |

| Fractions of an inch. | 0" | | 1" | | 2" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.25527 | 324.0000 | 1.25728 | 327.0069 | 1.25928 | 330.0278 |
| 1/32 | 1.25534 | 324.0938 | 1.25734 | 327.1011 | 1.25934 | 330.1224 |
| 1/16 | 1.25540 | 324.1875 | 1.25740 | 327.1953 | 1.25940 | 330.2170 |
| 3/32 | 1.25546 | 324.2813 | 1.25747 | 327.2896 | 1.25946 | 330.3117 |
| 1/8 | 1.25552 | 324.3751 | 1.25753 | 327.3838 | 1.25952 | 330.4064 |
| 5/32 | 1.25559 | 324.4689 | 1.25759 | 327.4780 | 1.25959 | 330.5010 |
| 3/16 | 1.25565 | 324.5627 | 1.25765 | 327.5723 | 1.25965 | 330.5957 |
| 7/32 | 1.25571 | 324.6566 | 1.25772 | 327.6666 | 1.25971 | 330.6904 |
| 1/4 | 1.25577 | 324.7504 | 1.25778 | 327.7609 | 1.25977 | 330.7852 |
| 9/32 | 1.25584 | 324.8443 | 1.25784 | 327.8551 | 1.25984 | 330.8799 |
| 5/16 | 1.25590 | 324.9382 | 1.25790 | 327.9495 | 1.25990 | 330.9746 |
| 11/32 | 1.25596 | 325.0321 | 1.25797 | 328.0438 | 1.25996 | 331.0694 |
| 3/8 | 1.25603 | 325.1260 | 1.25803 | 328.1381 | 1.26002 | 331.1642 |
| 13/32 | 1.25609 | 325.2199 | 1.25809 | 328.2325 | 1.26008 | 331.2590 |
| 7/16 | 1.25615 | 325.3138 | 1.25815 | 328.3268 | 1.26015 | 331.3538 |
| 15/32 | 1.25621 | 325.4078 | 1.25822 | 328.4212 | 1.26021 | 331.4486 |
| 1/2 | 1.25628 | 325.5017 | 1.25828 | 328.5156 | 1.26027 | 331.5434 |
| 17/32 | 1.25634 | 325.5957 | 1.25834 | 328.6100 | 1.26033 | 331.6382 |
| 9/16 | 1.25640 | 325.6897 | 1.25840 | 328.7045 | 1.26039 | 331.7331 |
| 19/32 | 1.25646 | 325.7837 | 1.25847 | 328.7989 | 1.26046 | 331.8280 |
| 5/8 | 1.25653 | 325.8777 | 1.25853 | 328.8933 | 1.26052 | 331.9229 |
| 21/32 | 1.25659 | 325.9717 | 1.25859 | 328.9878 | 1.26058 | 332.0177 |
| 11/16 | 1.25665 | 326.0658 | 1.25865 | 329.0823 | 1.26064 | 332.1127 |
| 23/32 | 1.25672 | 326.1598 | 1.25871 | 329.1768 | 1.26070 | 332.2076 |
| 3/4 | 1.25678 | 326.2539 | 1.25878 | 329.2713 | 1.26077 | 332.3025 |
| 25/32 | 1.25684 | 326.3480 | 1.25884 | 329.3658 | 1.26083 | 332.3975 |
| 13/16 | 1.25690 | 326.4421 | 1.25890 | 329.4603 | 1.26089 | 332.4924 |
| 27/32 | 1.25697 | 326.5362 | 1.25896 | 329.5549 | 1.26095 | 332.5874 |
| 7/8 | 1.25703 | 326.6303 | 1.25903 | 329.6494 | 1.26101 | 332.6824 |
| 29/32 | 1.25709 | 326.7245 | 1.25909 | 329.7440 | 1.26108 | 332.7774 |
| 15/16 | 1.25715 | 326.8186 | 1.25915 | 329.8386 | 1.26114 | 332.8724 |
| 31/32 | 1.25722 | 326.9128 | 1.25921 | 329.9332 | 1.26120 | 332.9675 |
| 1 | 1.25728 | 327.0069 | 1.25928 | 330.0278 | 1.26126 | 333.0625 |

| Fractions of an inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.26126 | 333.0625 | 1.26324 | 336.1111 | 1.26521 | 339.1736 |
| 1/32 | 1.26132 | 333.1576 | 1.26330 | 336.2066 | 1.26527 | 339.2695 |
| 1/16 | 1.26139 | 333.2526 | 1.26336 | 336.3021 | 1.26533 | 339.3655 |
| 3/32 | 1.26145 | 333.3477 | 1.26343 | 336.3976 | 1.26540 | 339.4614 |
| 1/8 | 1.26151 | 333.4428 | 1.26349 | 336.4932 | 1.26546 | 339.5574 |
| 5/32 | 1.26157 | 333.5379 | 1.26355 | 336.5887 | 1.26552 | 339.6534 |
| 3/16 | 1.26163 | 333.6331 | 1.26361 | 336.6843 | 1.26558 | 339.7494 |
| 7/32 | 1.26170 | 333.7282 | 1.26367 | 336.7798 | 1.26564 | 339.8454 |
| 1/4 | 1.26176 | 333.8234 | 1.26373 | 336.8754 | 1.26570 | 339.9414 |
| 9/32 | 1.26182 | 333.9185 | 1.26380 | 336.9710 | 1.26576 | 340.0374 |
| 5/16 | 1.26188 | 334.0137 | 1.26386 | 337.0667 | 1.26582 | 340.1335 |
| 11/32 | 1.26194 | 334.1089 | 1.26392 | 337.1623 | 1.26589 | 340.2296 |
| 3/8 | 1.26201 | 334.2041 | 1.26398 | 337.2579 | 1.26595 | 340.3256 |
| 13/32 | 1.26207 | 334.2993 | 1.26404 | 337.3536 | 1.26601 | 340.4217 |
| 7/16 | 1.26213 | 334.3946 | 1.26410 | 337.4492 | 1.26607 | 340.5178 |
| 15/32 | 1.26219 | 334.4898 | 1.26417 | 337.5449 | 1.26613 | 340.6139 |
| 1/2 | 1.26225 | 334.5851 | 1.26423 | 337.6406 | 1.26619 | 340.7101 |
| 17/32 | 1.26232 | 334.6803 | 1.26429 | 337.7363 | 1.26625 | 340.8062 |
| 9/16 | 1.26238 | 334.7756 | 1.26435 | 337.8321 | 1.26632 | 340.9024 |
| 19/32 | 1.26244 | 334.8709 | 1.26441 | 337.9278 | 1.26638 | 340.9985 |
| 5/8 | 1.26250 | 334.9663 | 1.26447 | 338.0235 | 1.26644 | 341.0947 |
| 21/32 | 1.26256 | 335.0616 | 1.26453 | 338.1193 | 1.26650 | 341.1909 |
| 11/16 | 1.26262 | 335.1569 | 1.26460 | 338.2151 | 1.26656 | 341.2871 |
| 23/32 | 1.26269 | 335.2523 | 1.26466 | 338.3109 | 1.26662 | 341.3834 |
| 3/4 | 1.26275 | 335.3477 | 1.26472 | 338.4067 | 1.26668 | 341.4796 |
| 25/32 | 1.26281 | 335.4430 | 1.26478 | 338.5025 | 1.26674 | 341.5759 |
| 13/16 | 1.26287 | 335.5384 | 1.26484 | 338.5983 | 1.26680 | 341.6721 |
| 27/32 | 1.26293 | 335.6339 | 1.26490 | 338.6942 | 1.26687 | 341.7684 |
| 7/8 | 1.26299 | 335.7293 | 1.26497 | 338.7900 | 1.26693 | 341.8647 |
| 29/32 | 1.26306 | 335.8247 | 1.26503 | 338.8859 | 1.26699 | 341.9610 |
| 15/16 | 1.26312 | 335.9202 | 1.26509 | 338.9818 | 1.26705 | 342.0573 |
| 31/32 | 1.26318 | 336.0156 | 1.26515 | 339.0777 | 1.26711 | 342.1537 |
| 1 | 1.26324 | 336.1111 | 1.26521 | 339.1736 | 1.26717 | 342.2500 |

| Fractions of an Inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.26717 | 342.2500 | 1.26912 | 345.3403 | 1.27107 | 348.4444 |
| 1/32 | 1.26723 | 342.3464 | 1.26918 | 345.4371 | 1.27113 | 348.5417 |
| 1/16 | 1.26729 | 342.4427 | 1.26925 | 345.5339 | 1.27119 | 348.6389 |
| 3/32 | 1.26736 | 342.5391 | 1.26931 | 345.6307 | 1.27125 | 348.7362 |
| 1/8 | 1.26742 | 342.6355 | 1.26937 | 345.7275 | 1.27131 | 348.8334 |
| 5/32 | 1.26748 | 342.7319 | 1.26943 | 345.8244 | 1.27137 | 348.9307 |
| 3/16 | 1.26754 | 342.8284 | 1.26949 | 345.9213 | 1.27143 | 349.0280 |
| 7/32 | 1.26760 | 342.9248 | 1.26955 | 346.0181 | 1.27149 | 349.1253 |
| 1/4 | 1.26766 | 343.0213 | 1.26961 | 346.1150 | 1.27155 | 349.2227 |
| 9/32 | 1.26772 | 343.1177 | 1.26967 | 346.2119 | 1.27161 | 349.3200 |
| 5/16 | 1.26778 | 343.2142 | 1.26973 | 346.3088 | 1.27167 | 349.4173 |
| 11/32 | 1.26784 | 343.3107 | 1.26979 | 346.4058 | 1.27173 | 349.5147 |
| 3/8 | 1.26790 | 343.4072 | 1.26985 | 346.5027 | 1.27179 | 349.6121 |
| 13/32 | 1.26797 | 343.5038 | 1.26991 | 346.5997 | 1.27185 | 349.7095 |
| 7/16 | 1.26803 | 343.6003 | 1.26997 | 346.6966 | 1.27191 | 349.8069 |
| 15/32 | 1.26809 | 343.6968 | 1.27004 | 346.7936 | 1.27197 | 349.9043 |
| 1/2 | 1.26815 | 343.7934 | 1.27010 | 346.8906 | 1.27204 | 350.0017 |
| 17/32 | 1.26821 | 343.8900 | 1.27016 | 346.9876 | 1.27210 | 350.0992 |
| 9/16 | 1.26827 | 343.9866 | 1.27022 | 347.0847 | 1.27216 | 350.1966 |
| 19/32 | 1.26833 | 344.0832 | 1.27028 | 347.1817 | 1.27222 | 350.2941 |
| 5/8 | 1.26839 | 344.1798 | 1.27034 | 347.2788 | 1.27228 | 350.3916 |
| 21/32 | 1.26845 | 344.2764 | 1.27040 | 347.3758 | 1.27234 | 350.4891 |
| 11/16 | 1.26851 | 344.3731 | 1.27046 | 347.4729 | 1.27240 | 350.5866 |
| 23/32 | 1.26858 | 344.4697 | 1.27052 | 347.5700 | 1.27246 | 350.6841 |
| 3/4 | 1.26864 | 344.5664 | 1.27058 | 347.6671 | 1.27252 | 350.7817 |
| 25/32 | 1.26870 | 344.6631 | 1.27064 | 347.7642 | 1.27258 | 350.8792 |
| 13/16 | 1.26876 | 344.7598 | 1.27070 | 347.8614 | 1.27264 | 350.9768 |
| 27/32 | 1.26882 | 344.8565 | 1.27076 | 347.9585 | 1.27270 | 351.0744 |
| 7/8 | 1.26888 | 344.9532 | 1.27082 | 348.0557 | 1.27276 | 351.1720 |
| 29/32 | 1.26894 | 345.0500 | 1.27088 | 348.1528 | 1.27282 | 351.2696 |
| 15/16 | 1.26900 | 345.1467 | 1.27095 | 348.2500 | 1.27288 | 351.3672 |
| 31/32 | 1.26906 | 345.2435 | 1.27101 | 348.3472 | 1.27294 | 351.4649 |
| 1 | 1.26912 | 345.3403 | 1.27107 | 348.4444 | 1.27300 | 351.5625 |

| Fractions of an inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.27300 | 351.5625 | 1.27493 | 354.6944 | 1.27684 | 357.8403 |
| 1/32 | 1.27306 | 351.6602 | 1.27499 | 354.7925 | 1.27690 | 357.9388 |
| 1/16 | 1.27312 | 351.7578 | 1.27505 | 354.8907 | 1.27696 | 358.0374 |
| 3/32 | 1.27318 | 351.8555 | 1.27511 | 354.9888 | 1.27702 | 358.1359 |
| 1/8 | 1.27324 | 351.9532 | 1.27517 | 355.0869 | 1.27708 | 358.2345 |
| 5/32 | 1.27330 | 352.0510 | 1.27523 | 355.1851 | 1.27714 | 358.3331 |
| 3/16 | 1.27336 | 352.1487 | 1.27529 | 355.2832 | 1.27720 | 358.4317 |
| 7/32 | 1.27342 | 352.2464 | 1.27535 | 355.3814 | 1.27726 | 358.5303 |
| 1/4 | 1.27348 | 352.3442 | 1.27541 | 355.4796 | 1.27732 | 358.6289 |
| 9/32 | 1.27354 | 352.4420 | 1.27547 | 355.5778 | 1.27738 | 358.7275 |
| 5/16 | 1.27360 | 352.5397 | 1.27553 | 355.6760 | 1.27744 | 358.8262 |
| 11/32 | 1.27366 | 352.6375 | 1.27559 | 355.7743 | 1.27750 | 358.9249 |
| 3/8 | 1.27372 | 352.7354 | 1.27565 | 355.8725 | 1.27756 | 359.0235 |
| 13/32 | 1.27378 | 352.8332 | 1.27571 | 355.9708 | 1.27762 | 359.1222 |
| 7/16 | 1.27384 | 352.9310 | 1.27577 | 356.0690 | 1.27768 | 359.2209 |
| 15/32 | 1.27391 | 353.0289 | 1.27583 | 356.1673 | 1.27774 | 359.3197 |
| 1/2 | 1.27397 | 353.1267 | 1.27589 | 356.2656 | 1.27780 | 359.4184 |
| 17/32 | 1.27403 | 353.2246 | 1.27595 | 356.3639 | 1.27786 | 359.5172 |
| 9/16 | 1.27409 | 353.3225 | 1.27601 | 356.4623 | 1.27792 | 359.6159 |
| 19/32 | 1.27415 | 353.4204 | 1.27607 | 356.5606 | 1.27798 | 359.7147 |
| 5/8 | 1.27421 | 353.5183 | 1.27613 | 356.6590 | 1.27804 | 359.8135 |
| 21/32 | 1.27427 | 353.6163 | 1.27619 | 356.7573 | 1.27810 | 359.9123 |
| 11/16 | 1.27433 | 353.7142 | 1.27625 | 356.8557 | 1.27816 | 360.0111 |
| 23/32 | 1.27439 | 353.8122 | 1.27631 | 356.9541 | 1.27822 | 360.1099 |
| 3/4 | 1.27445 | 353.9102 | 1.27637 | 357.0525 | 1.27828 | 360.2088 |
| 25/32 | 1.27451 | 354.0081 | 1.27643 | 357.1509 | 1.27834 | 360.3076 |
| 13/16 | 1.27457 | 354.1061 | 1.27649 | 357.2494 | 1.27840 | 360.4065 |
| 27/32 | 1.27463 | 354.2042 | 1.27655 | 357.3478 | 1.27846 | 360.5054 |
| 7/8 | 1.27469 | 354.3022 | 1.27661 | 357.4463 | 1.27852 | 360.6043 |
| 29/32 | 1.27475 | 354.4002 | 1.27667 | 357.5448 | 1.27857 | 360.7032 |
| 15/16 | 1.27481 | 354.4983 | 1.27673 | 357.6433 | 1.27863 | 360.8021 |
| 31/32 | 1.27487 | 354.5964 | 1.27678 | 357.7418 | 1.27869 | 360.9010 |
| 1 | 1.27493 | 354.6944 | 1.27684 | 357.8403 | 1.27875 | 361.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.27875 | 361.0000 | 1.28065 | 364.1736 | 1.28255 | 367.3611 |
| 1/32 | 1.27881 | 361.0990 | 1.28071 | 364.2730 | 1.28261 | 367.4609 |
| 1/16 | 1.27887 | 361.1979 | 1.28077 | 364.3724 | 1.28266 | 367.5608 |
| 3/32 | 1.27893 | 361.2969 | 1.28083 | 364.4718 | 1.28272 | 367.6607 |
| 1/8 | 1.27899 | 361.3959 | 1.28089 | 364.5713 | 1.28278 | 367.7605 |
| 5/32 | 1.27905 | 361.4950 | 1.28095 | 364.6707 | 1.28284 | 367.8604 |
| 3/16 | 1.27911 | 361.5940 | 1.28101 | 364.7702 | 1.28290 | 367.9603 |
| 7/32 | 1.27917 | 361.6930 | 1.28107 | 364.8697 | 1.28296 | 368.0602 |
| 1/4 | 1.27923 | 361.7921 | 1.28113 | 364.9692 | 1.28302 | 368.1602 |
| 9/32 | 1.27929 | 361.8912 | 1.28119 | 365.0687 | 1.28308 | 368.2601 |
| 5/16 | 1.27935 | 361.9903 | 1.28125 | 365.1682 | 1.28314 | 368.3601 |
| 11/32 | 1.27941 | 362.0894 | 1.28131 | 365.2677 | 1.28320 | 368.4600 |
| 3/8 | 1.27947 | 362.1885 | 1.28136 | 365.3673 | 1.28325 | 368.5600 |
| 13/32 | 1.27953 | 362.2876 | 1.28142 | 365.4669 | 1.28331 | 368.6600 |
| 7/16 | 1.27959 | 362.3867 | 1.28148 | 365.5664 | 1.28337 | 368.7600 |
| 15/32 | 1.27965 | 362.4859 | 1.28154 | 365.6660 | 1.28343 | 368.8600 |
| 1/2 | 1.27970 | 362.5851 | 1.28160 | 365.7656 | 1.28349 | 368.9601 |
| 17/32 | 1.27976 | 362.6843 | 1.28166 | 365.8652 | 1.28355 | 369.0601 |
| 9/16 | 1.27982 | 362.7834 | 1.28172 | 365.9649 | 1.28361 | 369.1602 |
| 19/32 | 1.27988 | 362.8827 | 1.28178 | 366.0645 | 1.28367 | 369.2603 |
| 5/8 | 1.27994 | 362.9819 | 1.28184 | 366.1642 | 1.28373 | 369.3604 |
| 21/32 | 1.28000 | 363.0811 | 1.28190 | 366.2638 | 1.28378 | 369.4605 |
| 11/16 | 1.28006 | 363.1804 | 1.28196 | 366.3635 | 1.28384 | 369.5606 |
| 23/32 | 1.28012 | 363.2796 | 1.28202 | 366.4632 | 1.28390 | 369.6607 |
| 3/4 | 1.28018 | 363.3789 | 1.28207 | 366.5629 | 1.28396 | 369.7609 |
| 25/32 | 1.28024 | 363.4782 | 1.28213 | 366.6627 | 1.28402 | 369.8610 |
| 13/16 | 1.28030 | 363.5775 | 1.28219 | 366.7624 | 1.28408 | 369.9612 |
| 27/32 | 1.28036 | 363.6768 | 1.28225 | 366.8621 | 1.28414 | 370.0614 |
| 7/8 | 1.28042 | 363.7761 | 1.28231 | 366.9619 | 1.28420 | 370.1616 |
| 29/32 | 1.28048 | 363.8755 | 1.28237 | 367.0617 | 1.28425 | 370.2618 |
| 15/16 | 1.28054 | 363.9749 | 1.28243 | 367.1615 | 1.28431 | 370.3620 |
| 31/32 | 1.28059 | 364.0742 | 1.28249 | 367.2613 | 1.28437 | 370.4622 |
| 1 | 1.28065 | 364.1736 | 1.28255 | 367.3611 | 1.28443 | 370.5625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.28443 | 370.5625 | 1.28631 | 373.7778 | 1.28817 | 377.0069 |
| 1/32 | 1.28449 | 370.6628 | 1.28637 | 373.8785 | 1.28823 | 377.1081 |
| 1/16 | 1.28455 | 370.7630 | 1.28642 | 373.9792 | 1.28829 | 377.2092 |
| 3/32 | 1.28461 | 370.8633 | 1.28648 | 374.0799 | 1.28835 | 377.3104 |
| 1/8 | 1.28467 | 370.9637 | 1.28654 | 374.1807 | 1.28841 | 377.4116 |
| 5/32 | 1.28472 | 371.0640 | 1.28660 | 374.2814 | 1.28847 | 377.5128 |
| 3/16 | 1.28478 | 371.1643 | 1.28666 | 374.3822 | 1.28852 | 377.6140 |
| 7/32 | 1.28484 | 371.2647 | 1.28672 | 374.4830 | 1.28858 | 377.7152 |
| 1/4 | 1.28490 | 371.3650 | 1.28677 | 374.5838 | 1.28864 | 377.8164 |
| 9/32 | 1.28496 | 371.4654 | 1.28683 | 374.6846 | 1.28870 | 377.9177 |
| 5/16 | 1.28502 | 371.5658 | 1.28689 | 374.7854 | 1.28876 | 378.0189 |
| 11/32 | 1.28508 | 371.6662 | 1.28695 | 374.8862 | 1.28881 | 378.1202 |
| 3/8 | 1.28514 | 371.7666 | 1.28701 | 374.9871 | 1.28887 | 378.2215 |
| 13/32 | 1.28519 | 371.8670 | 1.28707 | 375.0880 | 1.28893 | 378.3228 |
| 7/16 | 1.28525 | 371.9675 | 1.28712 | 375.1888 | 1.28899 | 378.4241 |
| 15/32 | 1.28531 | 372.0679 | 1.28718 | 375.2897 | 1.28905 | 378.5254 |
| 1/2 | 1.28537 | 372.1684 | 1.28724 | 375.3906 | 1.28911 | 378.6267 |
| 17/32 | 1.28543 | 372.2689 | 1.28730 | 375.4915 | 1.28916 | 378.7281 |
| 9/16 | 1.28549 | 372.3694 | 1.28736 | 375.5925 | 1.28922 | 378.8295 |
| 19/32 | 1.28555 | 372.4699 | 1.28742 | 375.6934 | 1.28928 | 378.9308 |
| 5/8 | 1.28560 | 372.5704 | 1.28748 | 375.7944 | 1.28934 | 379.0322 |
| 21/32 | 1.28566 | 372.6710 | 1.28753 | 375.8954 | 1.28940 | 379.1336 |
| 11/16 | 1.28572 | 372.7715 | 1.28759 | 375.9963 | 1.28945 | 379.2351 |
| 23/32 | 1.28578 | 372.8721 | 1.28765 | 376.0973 | 1.28951 | 379.3365 |
| 3/4 | 1.28584 | 372.9727 | 1.28771 | 376.1984 | 1.28957 | 379.4379 |
| 25/32 | 1.28590 | 373.0732 | 1.28777 | 376.2994 | 1.28963 | 379.5394 |
| 13/16 | 1.28596 | 373.1739 | 1.28783 | 376.4004 | 1.28969 | 379.6409 |
| 27/32 | 1.28601 | 373.2745 | 1.28788 | 376.5015 | 1.28974 | 379.7424 |
| 7/8 | 1.28607 | 373.3751 | 1.28794 | 376.6025 | 1.28980 | 379.8439 |
| 29/32 | 1.28613 | 373.4758 | 1.28800 | 376.7036 | 1.28986 | 379.9454 |
| 15/16 | 1.28619 | 373.5764 | 1.28806 | 376.8047 | 1.28992 | 380.0469 |
| 31/32 | 1.28625 | 373.6771 | 1.28812 | 376.9058 | 1.28998 | 380.1484 |
| 1 | 1.28631 | 373.7778 | 1.28817 | 377.0069 | 1.29003 | 380.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.29003 | 380.2500 | 1.29189 | 383.5069 | 1.29373 | 386.7778 |
| 1/32 | 1.29009 | 380.3516 | 1.29194 | 383.6089 | 1.29379 | 386.8802 |
| 1/16 | 1.29015 | 380.4532 | 1.29200 | 383.7110 | 1.29385 | 386.9827 |
| 3/32 | 1.29021 | 380.5547 | 1.29206 | 383.8130 | 1.29390 | 387.0851 |
| 1/8 | 1.29027 | 380.6564 | 1.29212 | 383.9150 | 1.29396 | 387.1876 |
| 5/32 | 1.29032 | 380.7580 | 1.29218 | 384.0171 | 1.29402 | 387.2901 |
| 3/16 | 1.29038 | 380.8596 | 1.29223 | 384.1192 | 1.29408 | 387.3926 |
| 7/32 | 1.29044 | 380.9613 | 1.29229 | 384.2213 | 1.29413 | 387.4951 |
| 1/4 | 1.29050 | 381.0629 | 1.29235 | 384.3234 | 1.29419 | 387.5977 |
| 9/32 | 1.29056 | 381.1646 | 1.29241 | 384.4255 | 1.29425 | 387.7002 |
| 5/16 | 1.29061 | 381.2663 | 1.29246 | 384.5276 | 1.29431 | 387.8028 |
| 11/32 | 1.29067 | 381.3680 | 1.29252 | 384.6297 | 1.29436 | 387.9053 |
| 3/8 | 1.29073 | 381.4697 | 1.29258 | 384.7319 | 1.29442 | 388.0079 |
| 13/32 | 1.29079 | 381.5715 | 1.29264 | 384.8340 | 1.29448 | 388.1105 |
| 7/16 | 1.29085 | 381.6732 | 1.29269 | 384.9362 | 1.29454 | 388.2131 |
| 15/32 | 1.29090 | 381.7750 | 1.29275 | 385.0384 | 1.29459 | 388.3158 |
| 1/2 | 1.29096 | 381.8767 | 1.29281 | 385.1406 | 1.29465 | 388.4184 |
| 17/32 | 1.29102 | 381.9785 | 1.29287 | 385.2428 | 1.29471 | 388.5211 |
| 9/16 | 1.29108 | 382.0803 | 1.29292 | 385.3451 | 1.29476 | 388.6237 |
| 19/32 | 1.29114 | 382.1821 | 1.29298 | 385.4473 | 1.29482 | 388.7264 |
| 5/8 | 1.29119 | 382.2840 | 1.29304 | 385.5496 | 1.29488 | 388.8291 |
| 21/32 | 1 29125 | 382.3858 | 1.29310 | 385.6519 | 1.29494 | 388.9318 |
| 11/16 | 1.29131 | 382.4877 | 1.29316 | 385.7542 | 1.29499 | 389.0345 |
| 23/32 | 1.29137 | 382.5895 | 1.29321 | 385.8565 | 1.29505 | 389.1373 |
| 3/4 | 1.29142 | 382.6914 | 1.29327 | 385.9588 | 1.29511 | 389.2400 |
| 25/32 | 1.29148 | 382.7933 | 1.29333 | 386.0611 | 1.29517 | 389.3428 |
| 13/16 | 1.29154 | 382.8952 | 1.29339 | 386.1634 | 1.29522 | 389.4456 |
| 27/32 | 1.29160 | 382.9971 | 1.29344 | 386.2658 | 1.29528 | 389.5483 |
| 7/8 | 1.29166 | 383.0991 | 1.29350 | 386.3682 | 1.29534 | 389.6512 |
| 29/32 | 1.29171 | 383.2010 | 1.29356 | 386.4705 | 1.29540 | 389.7540 |
| 15/16 | 1.29177 | 383.3030 | 1.29362 | 386.5729 | 1.29545 | 389.8568 |
| 31/32 | 1.29183 | 383.4050 | 1.29367 | 386.6754 | 1.29551 | 389.9596 |
| 1 | 1.29189 | 383.5069 | 1.29373 | 386.7778 | 1.29557 | 390.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.29557 | 390.0625 | 1.29740 | 393.3611 | 1.29922 | 396.6736 |
| 1/32 | 1.29562 | 390.1654 | 1.29745 | 393.4644 | 1.29927 | 396.7774 |
| 1/16 | 1.29568 | 390.2683 | 1.29751 | 393.5677 | 1.29933 | 396.8811 |
| 3/32 | 1.29574 | 390.3712 | 1.29757 | 393.6711 | 1.29939 | 396.9849 |
| 1/8 | 1.29580 | 390.4741 | 1.29762 | 393.7744 | 1.29944 | 397.0887 |
| 5/32 | 1.29585 | 390.5770 | 1.29768 | 393.8778 | 1.29950 | 397.1924 |
| 3/16 | 1.29591 | 390.6799 | 1.29774 | 393.9811 | 1.29956 | 397.2963 |
| 7/32 | 1.29597 | 390.7829 | 1.29779 | 394.0845 | 1.29961 | 397.4001 |
| 1/4 | 1.29602 | 390.8859 | 1.29785 | 394.1879 | 1.29967 | 397.5039 |
| 9/32 | 1.29608 | 390.9888 | 1.29791 | 394.2913 | 1.29973 | 397.6078 |
| 5/16 | 1.29614 | 391.0918 | 1.29797 | 394.3948 | 1.29978 | 397.7116 |
| 11/32 | 1.29620 | 391.1948 | 1.29802 | 394.4982 | 1.29984 | 397.8155 |
| 3/8 | 1.29625 | 391.2979 | 1.29808 | 394.6017 | 1.29990 | 397.9194 |
| 13/32 | 1.29631 | 391.4009 | 1.29814 | 394.7051 | 1.29995 | 398.0233 |
| 7/16 | 1.29637 | 391.5039 | 1.29819 | 394.8086 | 1.30001 | 398.1272 |
| 15/32 | 1.29643 | 391.6070 | 1.29825 | 394.9121 | 1.30007 | 398.2311 |
| 1/2 | 1.29648 | 391.7101 | 1.29831 | 395.0156 | 1.30012 | 398.3351 |
| 17/32 | 1.29654 | 391.8132 | 1.29836 | 395.1191 | 1.30018 | 398.4390 |
| 9/16 | 1.29660 | 391.9163 | 1.29842 | 395.2227 | 1.30024 | 398.5430 |
| 19/32 | 1.29665 | 392.0194 | 1.29848 | 395.3262 | 1.30029 | 398.6470 |
| 5/8 | 1.29671 | 392.1225 | 1.29853 | 395.4298 | 1.30035 | 398.7510 |
| 21/32 | 1.29677 | 392.2256 | 1.29859 | 395.5334 | 1.30041 | 398.8550 |
| 11/16 | 1.29683 | 392.3288 | 1.29865 | 395.6370 | 1.30046 | 398.9590 |
| 23/32 | 1.29688 | 392.4320 | 1.29871 | 395.7406 | 1.30052 | 399.0630 |
| 3/4 | 1.29694 | 392.5352 | 1.29876 | 395.8442 | 1.30058 | 399.1671 |
| 25/32 | 1.29700 | 392.6384 | 1.29882 | 395.9478 | 1.30063 | 399.2712 |
| 13/16 | 1.29705 | 392.7416 | 1.29888 | 396.0515 | 1.30069 | 399.3752 |
| 27/32 | 1.29711 | 392.8448 | 1.29893 | 396.1551 | 1.30075 | 399.4793 |
| 7/8 | 1.29717 | 392.9480 | 1.29899 | 396.2588 | 1.30080 | 399.5834 |
| 29/32 | 1.29722 | 393.0513 | 1.29905 | 396.3625 | 1.30086 | 399.6876 |
| 15/16 | 1.29728 | 393.1545 | 1.29910 | 396.4662 | 1.30092 | 399.7917 |
| 31/32 | 1.29734 | 393.2578 | 1.29916 | 396.5699 | 1.30097 | 399.8958 |
| 1 | 1.29740 | 393.3611 | 1.29922 | 396.6736 | 1.30103 | 400.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.30103 | 400.0000 | 1.30284 | 403.3403 | 1.30463 | 406.6944 |
| 1/32 | 1.30109 | 400.1042 | 1.30289 | 403.4449 | 1.30469 | 406.7995 |
| 1/16 | 1.30114 | 400.2084 | 1.30295 | 403.5495 | 1.30475 | 406.9045 |
| 3/32 | 1.30120 | 400.3126 | 1.30300 | 403.6541 | 1.30480 | 407.0096 |
| 1/8 | 1.30126 | 400.4168 | 1.30306 | 403.7588 | 1.30486 | 407.1147 |
| 5/32 | 1.30131 | 400.5210 | 1.30312 | 403.8635 | 1.30491 | 407.2198 |
| 3/16 | 1.30137 | 400.6252 | 1.30317 | 403.9681 | 1.30497 | 407.3249 |
| 7/32 | 1.30143 | 400.7295 | 1.30323 | 404.0728 | 1.30503 | 407.4300 |
| 1/4 | 1.30148 | 400.8338 | 1.30329 | 404.1775 | 1 30508 | 407.5352 |
| 9/32 | 1.30154 | 400.9380 | 1 30334 | 404.2822 | 1 30514 | 407.6403 |
| 5/16 | 1.30160 | 401.0423 | 1.30340 | 404.3870 | 1.30519 | 407.7455 |
| 11/32 | 1.30165 | 401.1467 | 1.30345 | 404.4917 | 1.30525 | 407.8506 |
| 3/8 | 1.30171 | 401.2510 | 1.30351 | 404.5965 | 1.30531 | 407.9558 |
| 13/32 | 1.30176 | 401.3553 | 1.30357 | 404.7012 | 1.30536 | 408.0610 |
| 7/16 | 1.30182 | 401.4597 | 1.30362 | 404.8060 | 1.30542 | 408.1663 |
| 15/32 | 1.30188 | 401.5640 | 1.30368 | 404.9108 | 1.30547 | 408.2715 |
| 1/2 | 1.30193 | 401.6684 | 1.30374 | 405.0156 | 1.30553 | 408.3767 |
| 17/32 | 1.30199 | 401.7728 | 1.30379 | 405.1204 | 1.30559 | 408.4820 |
| 9/16 | 1.30205 | 401.8772 | 1 30385 | 405.2253 | 1.30564 | 408.5873 |
| 19/32 | 1.30210 | 401.9816 | 1.30390 | 405.3301 | 1.30570 | 408.6926 |
| 5/8 | 1.30216 | 402.0860 | 1.30396 | 405.4350 | 1.30575 | 408.7979 |
| 21/32 | 1.30222 | 402.1905 | 1.30402 | 405.5399 | 1.30581 | 408.9032 |
| 11/16 | 1.30227 | 402.2949 | 1.30407 | 405.6448 | 1.30587 | 409.0085 |
| 23/32 | 1.30233 | 402.3994 | 1.30413 | 405.7497 | 1.30592 | 409.1138 |
| 3/4 | 1.30239 | 402.5039 | 1.30419 | 405.8546 | 1.30598 | 409.2192 |
| 25/32 | 1.30244 | 402.6084 | 1.30424 | 405.9595 | 1.30603 | 409.3246 |
| 13/16 | 1.30250 | 402.7129 | 1.30430 | 406.0645 | 1.30609 | 409.4299 |
| 27/32 | 1.30255 | 402.8174 | 1.30435 | 406.1694 | 1.30615 | 409.5353 |
| 7/8 | 1.30261 | 402.9220 | 1.30441 | 406.2744 | 1.30620 | 409.6407 |
| 29/32 | 1.30267 | 403.0265 | 1.30447 | 406.3794 | 1.30626 | 409.7462 |
| 15/16 | 1.30272 | 403.1311 | 1.30452 | 406.4844 | 1.30631 | 409.8516 |
| 31/32 | 1.30278 | 403.2357 | 1.30458 | 406.5894 | 1.30637 | 409.9570 |
| 1 | 1.30284 | 403.3403 | 1.30463 | 406.6944 | 1.30643 | 410.0625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.30643 | 410.0625 | 1.30821 | 413.4444 | 1.30998 | 416.8403 |
| 1/32 | 1.30648 | 410.1680 | 1.30826 | 413.5504 | 1.31004 | 416.9466 |
| 1/16 | 1.30654 | 410.2735 | 1.30832 | 413.6563 | 1.31010 | 417.0530 |
| 3/32 | 1.30659 | 410.3790 | 1.30838 | 413.7622 | 1.31015 | 417.1593 |
| 1/8 | 1.30665 | 410.4845 | 1.30843 | 413.8682 | 1.31021 | 417.2657 |
| 5/32 | 1.30670 | 410.5900 | 1.30849 | 413.9741 | 1.31026 | 417.3721 |
| 3/16 | 1.30676 | 410.6956 | 1.30854 | 414.0801 | 1.31032 | 417.4785 |
| 7/32 | 1.30682 | 410.8011 | 1.30860 | 414.1861 | 1.31037 | 417.5850 |
| 1/4 | 1.30687 | 410.9067 | 1.30865 | 414.2921 | 1.31043 | 417.6914 |
| 9/32 | 1.30693 | 411.0123 | 1.30871 | 414.3981 | 1.31048 | 417.7979 |
| 5/16 | 1.30698 | 411.1179 | 1.30876 | 414.5042 | 1.31054 | 417.9043 |
| 11/32 | 1.30704 | 411.2235 | 1.30882 | 414.6102 | 1.31059 | 418.0108 |
| 3/8 | 1.30709 | 411.3291 | 1.30888 | 414.7163 | 1.31065 | 418.1173 |
| 13/32 | 1.30715 | 411.4347 | 1.30893 | 414.8223 | 1.31070 | 418.2238 |
| 7/16 | 1.30721 | 411.5404 | 1.30899 | 414.9284 | 1.31076 | 418.3303 |
| 15/32 | 1.30726 | 411.6461 | 1.30904 | 415.0345 | 1.31081 | 418.4369 |
| 1/2 | 1.30732 | 411.7517 | 1.30910 | 415.1406 | 1.31087 | 418.5434 |
| 17/32 | 1.30737 | 411.8574 | 1.30915 | 415.2468 | 1.31093 | 418.6500 |
| 9/16 | 1.30743 | 411.9631 | 1.30921 | 415.3529 | 1.31098 | 418.7565 |
| 19/32 | 1.30748 | 412.0689 | 1.30926 | 415.4590 | 1.31104 | 418.8631 |
| 5/8 | 1.30754 | 412.1746 | 1.30932 | 415.5652 | 1.31109 | 418.9697 |
| 21/32 | 1.30760 | 412.2803 | 1.30938 | 415.6714 | 1.31115 | 419.0763 |
| 11/16 | 1.30765 | 412.3861 | 1.30943 | 415.7776 | 1.31120 | 419.1830 |
| 23/32 | 1.30771 | 412.4919 | 1.30949 | 415.8838 | 1.31126 | 419.2896 |
| 3/4 | 1.30776 | 412.5977 | 1.30954 | 415.9900 | 1.31131 | 419.3963 |
| 25/32 | 1.30782 | 412.7035 | 1.30960 | 416.0963 | 1.31137 | 419.5029 |
| 13/16 | 1.30787 | 412.8093 | 1.30965 | 416.2025 | 1.31142 | 419.6096 |
| 27/32 | 1.30793 | 412.9151 | 1.30971 | 416.3088 | 1.31148 | 419.7163 |
| 7/8 | 1.30799 | 413.0209 | 1.30976 | 416.4150 | 1.31153 | 419.8230 |
| 29/32 | 1.30804 | 413.1268 | 1.30982 | 416.5213 | 1.31159 | 419.9297 |
| 15/16 | 1.30810 | 413.2327 | 1.30987 | 416.6276 | 1.31164 | 420.0365 |
| 31/32 | 1.30815 | 413.3385 | 1.30993 | 416.7339 | 1.31170 | 420.1432 |
| 1 | 1.30821 | 413.4444 | 1.30998 | 416.8403 | 1.31175 | 420.2500 |

| Fractions of an Inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.31175 | 420.2500 | 1.31352 | 423.6736 | 1.31527 | 427.1111 |
| 1/32 | 1.31181 | 420.3568 | 1.31357 | 423.7808 | 1.31533 | 427.2188 |
| 1/16 | 1.31186 | 420.4636 | 1.31363 | 423.8880 | 1.31538 | 427.3264 |
| 3/32 | 1.31192 | 420.5704 | 1.31368 | 423.9953 | 1.31543 | 427.4341 |
| 1/8 | 1.31197 | 420.6772 | 1.31374 | 424.1025 | 1.31549 | 427.5418 |
| 5/32 | 1.31203 | 420.7840 | 1.31379 | 424.2098 | 1.31554 | 427.6495 |
| 3/16 | 1.31208 | 420.8909 | 1.31385 | 424.3171 | 1.31560 | 427.7572 |
| 7/32 | 1.31214 | 420.9977 | 1.31390 | 424.4244 | 1.31565 | 427.8649 |
| 1/4 | 1.31219 | 421.1046 | 1.31396 | 424.5317 | 1.31571 | 427.9727 |
| 9/32 | 1.31225 | 421.2115 | 1.31401 | 424.6390 | 1.31576 | 428.0804 |
| 5/16 | 1.31231 | 421.3184 | 1.31406 | 424.7463 | 1.31582 | 428.1882 |
| 11/32 | 1.31236 | 421.4253 | 1.31412 | 424.8537 | 1.31587 | 428.2960 |
| 3/8 | 1.31242 | 421.5322 | 1.31417 | 424.9610 | 1.31593 | 428.4038 |
| 13/32 | 1.31247 | 421.6392 | 1.31423 | 425.0684 | 1.31598 | 428.5116 |
| 7/16 | 1.31253 | 421.7461 | 1.31428 | 425.1758 | 1.31604 | 428.6194 |
| 15/32 | 1.31258 | 421.8531 | 1.31434 | 425.2832 | 1.31609 | 428.7272 |
| 1/2 | 1.31264 | 421.9601 | 1.31439 | 425.3906 | 1.31615 | 428.8351 |
| 17/32 | 1.31269 | 422.0671 | 1.31445 | 425.4981 | 1.31620 | 428.9429 |
| 9/16 | 1.31275 | 422.1741 | 1.31450 | 425.6055 | 1.31625 | 429.0508 |
| 19/32 | 1.31280 | 422.2811 | 1.31456 | 425.7130 | 1.31631 | 429.1587 |
| 5/8 | 1.31286 | 422.3881 | 1.31461 | 425.8204 | 1.31636 | 429.2666 |
| 21/32 | 1.31291 | 422.4952 | 1.31467 | 425.9279 | 1.31642 | 429.3745 |
| 11/16 | 1.31297 | 422.6022 | 1.31472 | 426.0354 | 1.31647 | 429.4824 |
| 23/32 | 1.31302 | 422.7093 | 1.31478 | 426.1429 | 1.31653 | 429.5904 |
| 3/4 | 1.31308 | 422.8164 | 1.31483 | 426.2504 | 1.31658 | 429.6984 |
| 25/32 | 1.31313 | 422.9235 | 1.31489 | 426.3580 | 1.31664 | 429.8063 |
| 13/16 | 1.31319 | 423.0306 | 1.31494 | 426.4655 | 1.31669 | 429.9143 |
| 27/32 | 1.31324 | 423.1378 | 1.31500 | 426.5731 | 1.31675 | 430.0223 |
| 7/8 | 1.31330 | 423.2449 | 1.31505 | 426.6807 | 1.31680 | 430.1303 |
| 29/32 | 1.31335 | 423.3521 | 1.31511 | 426.7883 | 1.31685 | 430.2383 |
| 15/16 | 1.31341 | 423.4592 | 1.31516 | 426.8959 | 1.31691 | 430.3464 |
| 31/32 | 1.31346 | 423.5664 | 1.31522 | 427.0035 | 1.31696 | 430.4544 |
| 1 | 1.31352 | 423.6736 | 1.31527 | 427.1111 | 1.31702 | 430.5625 |

| Fractions of an inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.31702 | 430.5625 | 1.31876 | 434.0278 | 1.32049 | 437.5069 |
| 1/32 | 1.31707 | 430.6706 | 1.31881 | 434.1363 | 1.32055 | 437.6159 |
| 1/16 | 1.31713 | 430.7787 | 1.31887 | 434.2448 | 1.32060 | 437.7249 |
| 3/32 | 1.31718 | 430.8868 | 1.31892 | 434.3534 | 1.32065 | 437.8338 |
| 1/8 | 1.31724 | 430.9949 | 1.31898 | 434.4619 | 1.32071 | 437.9428 |
| 5/32 | 1.31729 | 431.1030 | 1.31903 | 434.5705 | 1.32076 | 438.0518 |
| 3/16 | 1.31735 | 431.2112 | 1.31908 | 434.6791 | 1.32082 | 438.1608 |
| 7/32 | 1.31740 | 431.3193 | 1.31914 | 434.7877 | 1.32087 | 438.2699 |
| 1/4 | 1.31745 | 431.4275 | 1.31919 | 434.8963 | 1.32092 | 438.3789 |
| 9/32 | 1.31751 | 431.5357 | 1.31925 | 435.0049 | 1.32098 | 438.4880 |
| 5/16 | 1.31756 | 431.6439 | 1.31930 | 435.1135 | 1.32103 | 438.5970 |
| 11/32 | 1.31762 | 431.7521 | 1.31936 | 435.2222 | 1.32109 | 438.7061 |
| 3/8 | 1.31767 | 431.8604 | 1.31941 | 435.3308 | 1.32114 | 438.8152 |
| 13/32 | 1.31773 | 431.9686 | 1.31946 | 435.4395 | 1.32119 | 438.9243 |
| 7/16 | 1.31778 | 432.0768 | 1.31952 | 435.5482 | 1.32125 | 439.0334 |
| 15/32 | 1.31783 | 432.1851 | 1.31957 | 435.6569 | 1.32130 | 439.1426 |
| 1/2 | 1.31789 | 432.2934 | 1.31963 | 435.7656 | 1.32136 | 439.2517 |
| 17/32 | 1.31794 | 432.4017 | 1.31968 | 435.8744 | 1.32141 | 439.3609 |
| 9/16 | 1.31800 | 432.5100 | 1.31973 | 435.9831 | 1.32146 | 439.4701 |
| 19/32 | 1.31805 | 432.6183 | 1.31979 | 436.0919 | 1.32152 | 439.5793 |
| 5/8 | 1.31811 | 432.7267 | 1.31984 | 436.2006 | 1.32157 | 439.6885 |
| 21/32 | 1.31816 | 432.8350 | 1.31990 | 436.3094 | 1.32163 | 439.7977 |
| 11/16 | 1.31822 | 432.9434 | 1.31995 | 436.4182 | 1.32168 | 439.9069 |
| 23/32 | 1.31827 | 433.0518 | 1.32001 | 436.5270 | 1.32173 | 440.0162 |
| 3/4 | 1.31832 | 433.1602 | 1.32006 | 436.6359 | 1.32179 | 440.1254 |
| 25/32 | 1.31838 | 433.2686 | 1.32011 | 436.7447 | 1.32184 | 440.2347 |
| 13/16 | 1.31843 | 433.3770 | 1.32017 | 436.8535 | 1.32190 | 440.3440 |
| 27/32 | 1.31849 | 433.4854 | 1.32022 | 436.9624 | 1.32195 | 440.4533 |
| 7/8 | 1.31854 | 433.5939 | 1.32028 | 437.0713 | 1.32200 | 440.5626 |
| 29/32 | 1.31860 | 433.7023 | 1.32033 | 437.1802 | 1.32206 | 440.6719 |
| 15/16 | 1.31865 | 433.8108 | 1.32038 | 437.2891 | 1.32211 | 440.7813 |
| 31/32 | 1.31870 | 433.9193 | 1.32044 | 437.3980 | 1.32217 | 440.8906 |
| 1 | 1.31876 | 434 0278 | 1.32049 | 437.5069 | 1.32222 | 441.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.32222 | 441.0000 | 1.32394 | 444.5069 | 1.32565 | 448.0278 |
| 1/32 | 1.32227 | 441.1094 | 1.32399 | 444.6168 | 1.32571 | 448.1380 |
| 1/16 | 1.32233 | 441.2188 | 1.32405 | 444.7266 | 1.32576 | 448.2483 |
| 3/32 | 1.32238 | 441.3282 | 1.32410 | 444.8364 | 1.32581 | 448.3586 |
| 1/8 | 1.32243 | 441.4376 | 1.32415 | 444.9463 | 1.32587 | 448.4689 |
| 5/32 | 1.32249 | 441.5470 | 1.32421 | 445.0562 | 1.32592 | 448.5792 |
| 3/16 | 1.32254 | 441.6565 | 1.32426 | 445.1660 | 1.32597 | 448.6895 |
| 7/32 | 1.32260 | 441.7660 | 1.32431 | 445.2759 | 1.32603 | 448.7998 |
| 1/4 | 1.32265 | 441.8754 | 1.32437 | 445.3859 | 1.32608 | 448.9102 |
| 9/32 | 1.32270 | 441.9849 | 1.32442 | 445.4958 | 1.32613 | 449.0205 |
| 5/16 | 1.32276 | 442.0944 | 1.32448 | 445.6057 | 1.32619 | 449.1309 |
| 11/32 | 1.32281 | 442.2039 | 1.32453 | 445.7157 | 1.32624 | 449.2413 |
| 3/8 | 1.32287 | 442.3135 | 1.32458 | 445.8256 | 1.32629 | 449.3517 |
| 13/32 | 1.32292 | 442.4230 | 1.32464 | 445.9356 | 1.32635 | 449.4621 |
| 7/16 | 1.32297 | 442.5326 | 1.32469 | 446.0456 | 1.32640 | 449.5725 |
| 15/32 | 1.32303 | 442.6422 | 1.32474 | 446.1556 | 1.32645 | 449.6830 |
| 1/2 | 1.32308 | 442.7517 | 1.32480 | 446.2656 | 1.32651 | 449.7934 |
| 17/32 | 1.32313 | 442.8613 | 1.32485 | 446.3757 | 1.32656 | 449.9039 |
| 9/16 | 1.32319 | 442.9709 | 1.32490 | 446.4857 | 1.32661 | 450.0144 |
| 19/32 | 1.32324 | 443.0806 | 1.32496 | 446.5958 | 1.32667 | 450.1248 |
| 5/8 | 1.32330 | 443.1902 | 1.32501 | 446.7058 | 1.32672 | 450.2354 |
| 21/32 | 1.32335 | 443.2999 | 1.32506 | 446.8159 | 1.32677 | 450.3459 |
| 11/16 | 1.32340 | 443.4095 | 1.32512 | 446.9260 | 1.32683 | 450.4564 |
| 23/32 | 1.32346 | 443.5192 | 1.32517 | 447.0361 | 1.32688 | 450.5670 |
| 3/4 | 1.32351 | 443.6289 | 1.32522 | 447.1463 | 1.32693 | 450.6775 |
| 25/32 | 1.32356 | 443.7386 | 1.32528 | 447.2564 | 1.32699 | 450.7881 |
| 13/16 | 1.32362 | 443.8483 | 1.32533 | 447.3666 | 1.32704 | 450.8987 |
| 27/32 | 1.32367 | 443.9581 | 1.32539 | 447.4767 | 1.32709 | 451.0093 |
| 7/8 | 1.32372 | 444.0678 | 1.32544 | 447.5869 | 1.32715 | 451.1199 |
| 29/32 | 1.32378 | 444.1776 | 1.32549 | 447.6971 | 1.32720 | 451.2305 |
| 15/16 | 1.32383 | 444.2874 | 1.32555 | 447.8073 | 1.32725 | 451.3412 |
| 31/32 | 1.32389 | 444.3971 | 1.32560 | 447.9175 | 1.32731 | 451.4518 |
| 1 | 1.32394 | 444.5069 | 1.32565 | 448.0278 | 1.32736 | 451.5625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.32736 | 451.5625 | 1.32906 | 455.1111 | 1.33075 | 458.6736 |
| 1/32 | 1.32741 | 451.6732 | 1.32911 | 455.2222 | 1.33080 | 458.7852 |
| 1/16 | 1.32747 | 451.7839 | 1.32916 | 455.3334 | 1.33086 | 458.8967 |
| 3/32 | 1.32752 | 451.8946 | 1.32922 | 455.4445 | 1.33091 | 459.0083 |
| 1/8 | 1.32757 | 452.0053 | 1.32927 | 455.5557 | 1.33096 | 459.1199 |
| 5/32 | 1.32762 | 452.1161 | 1.32932 | 455.6668 | 1.33102 | 459.2315 |
| 3/16 | 1.32768 | 452.2268 | 1.32938 | 455.7780 | 1.33107 | 459.3431 |
| 7/32 | 1.32773 | 452.3376 | 1.32943 | 455.8892 | 1.33112 | 459.4548 |
| 1/4 | 1.32778 | 452.4484 | 1.32948 | 456.0004 | 1.33117 | 459.5664 |
| 9/32 | 1.32784 | 452.5591 | 1.32954 | 456.1117 | 1.33123 | 459.6781 |
| 5/16 | 1.32789 | 452.6699 | 1.32959 | 456.2229 | 1.33128 | 459.7897 |
| 11/32 | 1.32794 | 452.7808 | 1.32964 | 456.3342 | 1.33133 | 459.9014 |
| 3/8 | 1.32800 | 452.8916 | 1.32969 | 456.4454 | 1.33139 | 460.0131 |
| 13/32 | 1.32805 | 453.0024 | 1.32975 | 456.5567 | 1.33144 | 460.1248 |
| 7/16 | 1.32810 | 453.1133 | 1.32980 | 456.6680 | 1.33149 | 460.2366 |
| 15/32 | 1.32816 | 453.2242 | 1.32985 | 456.7793 | 1.33154 | 460.3483 |
| 1/2 | 1.32821 | 453.3351 | 1.32991 | 456.8906 | 1.33160 | 460.4601 |
| 17/32 | 1.32826 | 453.4460 | 1.32996 | 457.0020 | 1.33165 | 460.5718 |
| 9/16 | 1.32832 | 453.5569 | 1.33001 | 457.1133 | 1.33170 | 460.6836 |
| 19/32 | 1.32837 | 453.6678 | 1.33006 | 457.2247 | 1.33175 | 460.7954 |
| 5/8 | 1.32842 | 453.7788 | 1.33012 | 457.3360 | 1.33181 | 460.9072 |
| 21/32 | 1.32848 | 453.8897 | 1.33017 | 457.4474 | 1.33186 | 461.0190 |
| 11/16 | 1.32853 | 454.0007 | 1.33022 | 457.5588 | 1.33191 | 461.1309 |
| 23/32 | 1.32858 | 454.1117 | 1.33028 | 457.6703 | 1.33196 | 461.2427 |
| 3/4 | 1.32863 | 454.2227 | 1.33033 | 457.7817 | 1.33202 | 461.3546 |
| 25/32 | 1.32869 | 454.3337 | 1.33038 | 457.8931 | 1.33207 | 461.4665 |
| 13/16 | 1.32874 | 454.4447 | 1.33043 | 458.0046 | 1.33212 | 461.5784 |
| 27/32 | 1.32879 | 454.5557 | 1.33049 | 458.1161 | 1.33218 | 461.6903 |
| 7/8 | 1.32885 | 454.6668 | 1.33054 | 458.2275 | 1.33223 | 461.8022 |
| 29/32 | 1.32890 | 454.7778 | 1.33059 | 458.3390 | 1.33228 | 461.9141 |
| 15/16 | 1.32895 | 454.8889 | 1.33065 | 458.4505 | 1.33233 | 462.0261 |
| 31/32 | 1.32901 | 455.0000 | 1.33070 | 458.5621 | 1.33239 | 462.1380 |
| 1 | 1.32906 | 455.1111 | 1.33075 | 458.6736 | 1.33244 | 462.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.33244 | 462.2500 | 1.33412 | 465.8403 | 1.33579 | 469.4444 |
| 1/32 | 1.33249 | 462.3620 | 1.33417 | 465.9527 | 1.33584 | 469.5573 |
| 1/16 | 1.33254 | 462.4740 | 1.33422 | 466.0651 | 1.33590 | 469.6702 |
| 3/32 | 1.33260 | 462.5860 | 1.33428 | 466.1776 | 1.33595 | 469.7830 |
| 1/8 | 1.33265 | 462.6980 | 1.33433 | 466.2900 | 1.33600 | 469.8959 |
| 5/32 | 1.33270 | 462.8101 | 1.33438 | 466.4025 | 1.33605 | 470.0088 |
| 3/16 | 1.33275 | 462.9221 | 1.33443 | 466.5150 | 1.33611 | 470.1218 |
| 7/32 | 1.33281 | 463.0342 | 1.33449 | 466.6275 | 1.33616 | 470.2347 |
| 1/4 | 1.33286 | 463.1463 | 1.33454 | 466.7400 | 1.33621 | 470.3477 |
| 9/32 | 1.33291 | 463.2584 | 1.33459 | 466.8525 | 1.33626 | 470.4606 |
| 5/16 | 1.33296 | 463.3705 | 1.33464 | 466.9651 | 1.33631 | 470.5736 |
| 11/32 | 1.33302 | 463.4826 | 1.33469 | 467.0776 | 1.33637 | 470.6866 |
| 3/8 | 1.33307 | 463.5947 | 1.33475 | 467.1902 | 1.33642 | 470.7996 |
| 13/32 | 1.33312 | 463.7069 | 1.33480 | 467.3028 | 1.33647 | 470.9126 |
| 7/16 | 1.33317 | 463.8190 | 1.33485 | 467.4154 | 1.33652 | 471.0256 |
| 15/32 | 1.33323 | 463.9312 | 1.33490 | 467.5280 | 1.33657 | 471.1387 |
| 1/2 | 1.33328 | 464.0434 | 1.33496 | 467.6406 | 1.33663 | 471.2517 |
| 17/32 | 1.33333 | 464.1556 | 1.33501 | 467.7533 | 1.33668 | 471.3648 |
| 9/16 | 1.33338 | 464.2678 | 1.33506 | 467.8659 | 1.33673 | 471.4779 |
| 19/32 | 1.33344 | 464.3801 | 1.33511 | 467.9786 | 1.33678 | 471.5910 |
| 5/8 | 1.33349 | 464.4923 | 1.33517 | 468.0913 | 1.33683 | 471.7041 |
| 21/32 | 1.33354 | 464.6046 | 1.33522 | 468.2039 | 1.33689 | 471.8172 |
| 11/16 | 1.33359 | 464.7168 | 1.33527 | 468.3167 | 1.33694 | 471.9304 |
| 23/32 | 1.33365 | 464.8291 | 1.33532 | 468.4294 | 1.33699 | 472.0435 |
| 3/4 | 1.33370 | 464.9414 | 1.33537 | 468.5421 | 1.33704 | 472.1567 |
| 25/32 | 1.33375 | 465.0537 | 1.33543 | 468.6548 | 1.33710 | 472.2699 |
| 13/16 | 1.33380 | 465.1660 | 1.33548 | 468.7676 | 1.33715 | 472.3831 |
| 27/32 | 1.33386 | 465.2784 | 1.33553 | 468.8804 | 1.33720 | 472.4963 |
| 7/8 | 1.33391 | 465.3907 | 1.33558 | 468.9932 | 1.33725 | 472.6095 |
| 29/32 | 1.33396 | 465.5031 | 1.33564 | 469.1060 | 1.33730 | 472.7227 |
| 15/16 | 1.33401 | 465.6155 | 1.33569 | 469.2188 | 1.33736 | 472.8360 |
| 31/32 | 1.33407 | 465.7279 | 1.33574 | 469.3316 | 1.33741 | 472.9492 |
| 1 | 1.33412 | 465.8403 | 1.33579 | 469.4444 | 1.33746 | 473.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.33746 | 473.0625 | 1.33912 | 476.6944 | 1.34077 | 480.3403 |
| 1/32 | 1.33751 | 473.1758 | 1.33917 | 476.8082 | 1.34083 | 480.4544 |
| 1/16 | 1.33756 | 473.2891 | 1.33922 | 476.9219 | 1.34088 | 480.5686 |
| 3/32 | 1.33762 | 473.4024 | 1.33928 | 477.0357 | 1.34093 | 480.6828 |
| 1/8 | 1.33767 | 473.5157 | 1.33933 | 477.1494 | 1.34098 | 480.7970 |
| 5/32 | 1.33772 | 473.6291 | 1.33938 | 477.2632 | 1.34103 | 480.9112 |
| 3/16 | 1.33777 | 473.7424 | 1.33943 | 477.3770 | 1.34108 | 481.0254 |
| 7/32 | 1.33782 | 473.8558 | 1.33948 | 477.4908 | 1.34114 | 481.1397 |
| 1/4 | 1.33788 | 473.9692 | 1.33953 | 477.6046 | 1.34119 | 481.2539 |
| 9/32 | 1.33793 | 474.0826 | 1.33959 | 477.7184 | 1.34124 | 481.3682 |
| 5/16 | 1.33798 | 474.1960 | 1.33964 | 477.8323 | 1.34129 | 481.4824 |
| 11/32 | 1.33803 | 474.3094 | 1.33969 | 477.9461 | 1.34134 | 481.5967 |
| 3/8 | 1.33808 | 474.4229 | 1.33974 | 478.0600 | 1.34139 | 481.7110 |
| 13/32 | 1.33813 | 474.5363 | 1.33979 | 478.1739 | 1.34144 | 481.8254 |
| 7/16 | 1.33819 | 474.6498 | 1.33984 | 478.2878 | 1.34150 | 481.9397 |
| 15/32 | 1.33824 | 474.7632 | 1.33990 | 478.4017 | 1.34155 | 482.0540 |
| 1/2 | 1.33829 | 474.8767 | 1.33995 | 478.5156 | 1.34160 | 482.1684 |
| 17/32 | 1.33834 | 474.9902 | 1.34000 | 478.6296 | 1.34165 | 482.2828 |
| 9/16 | 1.33839 | 475.1038 | 1.34005 | 478.7435 | 1.34170 | 482.3972 |
| 19/32 | 1.33845 | 475.2173 | 1.34010 | 478.8575 | 1.34175 | 482.5116 |
| 5/8 | 1.33850 | 475.3308 | 1.34015 | 478.9715 | 1.34181 | 482.6260 |
| 21/32 | 1.33855 | 475.4444 | 1.34021 | 479.0855 | 1.34186 | 482.7404 |
| 11/16 | 1.33860 | 475.5580 | 1.34026 | 479.1995 | 1.34191 | 482.8548 |
| 23/32 | 1.33865 | 475.6716 | 1.34031 | 479.3135 | 1.34196 | 482.9693 |
| 3/4 | 1.33871 | 475.7852 | 1.34036 | 479.4275 | 1.34201 | 483.0838 |
| 25/32 | 1.33876 | 475.8988 | 1.34041 | 479.5416 | 1.34206 | 483.1982 |
| 13/16 | 1.33881 | 476.0124 | 1.34046 | 479.6556 | 1.34211 | 483.3127 |
| 27/32 | 1.33886 | 476.1260 | 1.34052 | 479.7697 | 1.34217 | 483.4273 |
| 7/8 | 1.33891 | 476.2397 | 1.34057 | 479.8838 | 1.34222 | 483.5418 |
| 29/32 | 1.33896 | 476.3534 | 1.34062 | 479.9979 | 1.34227 | 483.6563 |
| 15/16 | 1.33902 | 476.4670 | 1.34067 | 480.1120 | 1.34232 | 483.7709 |
| 31/32 | 1.33907 | 476.5807 | 1.34072 | 480.2261 | 1.34237 | 483.8854 |
| 1 | 1.33912 | 476.6944 | 1.34077 | 480.3403 | 1.34242 | 484.0000 |

| Fractions of an inch. | 0" | | 1" | | 2" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.34242 | 484.0000 | 1.34406 | 487.6736 | 1.34570 | 491.3611 |
| 1/32 | 1.34247 | 484.1146 | 1.34412 | 487.7886 | 1.34575 | 491.4766 |
| 1/16 | 1.34253 | 484.2292 | 1.34417 | 487.9037 | 1.34580 | 491.5920 |
| 3/32 | 1.34258 | 484.3438 | 1.34422 | 488.0187 | 1.34585 | 491.7075 |
| 1/8 | 1.34263 | 484.4584 | 1.34427 | 488.1338 | 1.34590 | 491.8230 |
| 5/32 | 1.34268 | 484.5731 | 1.34432 | 488.2489 | 1.34596 | 491.9385 |
| 3/16 | 1.34273 | 484.6877 | 1.34437 | 488.3640 | 1.34601 | 492.0541 |
| 7/32 | 1.34278 | 484.8024 | 1.34442 | 488.4791 | 1.34606 | 492.1696 |
| 1/4 | 1.34283 | 484.9171 | 1.34447 | 488.5942 | 1.34611 | 492.2852 |
| 9/32 | 1.34289 | 485.0318 | 1.34453 | 488.7093 | 1.34616 | 492.4007 |
| 5/16 | 1.34294 | 485.1465 | 1.34458 | 488.8245 | 1.34621 | 492.5163 |
| 11/32 | 1.34299 | 485.2612 | 1.34463 | 488.9396 | 1.34626 | 492.6319 |
| 3/8 | 1.34304 | 485.3760 | 1.34468 | 489.0548 | 1.34631 | 492.7475 |
| 13/32 | 1.34309 | 485.4907 | 1.34473 | 489.1700 | 1.34636 | 492.8631 |
| 7/16 | 1.34314 | 485.6055 | 1.34478 | 489.2852 | 1.34641 | 492.9788 |
| 15/32 | 1.34319 | 485.7203 | 1.34483 | 489.4004 | 1.34647 | 493.0944 |
| 1/2 | 1.34324 | 485.8351 | 1.34488 | 489.5156 | 1.34652 | 493.2101 |
| 17/32 | 1.34330 | 485.9499 | 1.34493 | 489.6309 | 1.34657 | 493.3257 |
| 9/16 | 1.34335 | 486.0647 | 1.34499 | 489.7461 | 1.34662 | 493.4414 |
| 19/32 | 1.34340 | 486.1795 | 1.34504 | 489.8614 | 1.34667 | 493.5571 |
| 5/8 | 1.34345 | 486.2944 | 1.34509 | 489.9767 | 1.34672 | 493.6729 |
| 21/32 | 1.34350 | 486.4092 | 1.34514 | 490.0920 | 1.34677 | 493.7886 |
| 11/16 | 1.34355 | 486.5241 | 1.34519 | 490.2073 | 1.34682 | 493.9043 |
| 23/32 | 1.34360 | 486.6390 | 1.34524 | 490.3226 | 1.34687 | 494.0201 |
| 3/4 | 1.34365 | 486.7539 | 1.34529 | 490.4379 | 1.34692 | 494.1359 |
| 25/32 | 1.34371 | 486.8688 | 1.34534 | 490.5533 | 1.34697 | 494.2516 |
| 13/16 | 1.34376 | 486.9838 | 1.34539 | 490.6686 | 1.34702 | 494.3674 |
| 27/32 | 1.34381 | 487.0987 | 1.34545 | 490.7840 | 1.34708 | 494.4832 |
| 7/8 | 1.34386 | 487.2136 | 1.34550 | 490.8994 | 1.34713 | 494.5991 |
| 29/32 | 1.34391 | 487.3286 | 1.34555 | 491.0148 | 1.34718 | 494.7149 |
| 15/16 | 1.34396 | 487.4436 | 1.34560 | 491.1302 | 1.34723 | 494.8308 |
| 31/32 | 1.34401 | 487.5586 | 1.34565 | 491.2457 | 1.34728 | 494.9466 |
| 1 | 1.34406 | 487.6736 | 1.34570 | 491.3611 | 1.34733 | 495.0625 |

| Fractions of an inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.34733 | 495.0625 | 1.34895 | 498.7778 | 1.35057 | 502.5069 |
| 1/32 | 1.34738 | 495.1784 | 1.34900 | 498.8941 | 1.35062 | 502.6237 |
| 1/16 | 1.34743 | 495.2943 | 1.34905 | 499.0104 | 1.35067 | 502.7405 |
| 3/32 | 1.34748 | 495.4102 | 1.34911 | 499.1268 | 1.35072 | 502.8573 |
| 1/8 | 1.34753 | 495.5262 | 1.34916 | 499.2432 | 1.35077 | 502.9741 |
| 5/32 | 1.34758 | 495.6421 | 1.34921 | 499.3595 | 1.35082 | 503.0909 |
| 3/16 | 1.34763 | 495.7581 | 1.34926 | 499.4759 | 1.35087 | 503.2077 |
| 7/32 | 1.34769 | 495.8740 | 1.34931 | 499.5923 | 1.35092 | 503.3246 |
| 1/4 | 1.34774 | 495.9900 | 1.34936 | 499.7088 | 1.35097 | 503.4414 |
| 9/32 | 1.34779 | 496.1060 | 1.34941 | 499.8252 | 1.35102 | 503.5583 |
| 5/16 | 1.34784 | 496.2220 | 1.34946 | 499.9417 | 1.35108 | 503.6752 |
| 11/32 | 1.34789 | 496.3381 | 1.34951 | 500.0581 | 1.35113 | 503.7921 |
| 3/8 | 1.34794 | 496.4541 | 1.34956 | 500.1746 | 1.35118 | 503.9090 |
| 13/32 | 1.34799 | 496.5702 | 1.34961 | 500.2911 | 1.35123 | 504.0259 |
| 7/16 | 1.34804 | 496.6862 | 1.34966 | 500.4076 | 1.35128 | 504.1428 |
| 15/32 | 1.34809 | 496.8023 | 1.34971 | 500.5241 | 1.35133 | 504.2598 |
| 1/2 | 1.34814 | 496.9184 | 1.34976 | 500.6406 | 1.35138 | 504.3767 |
| 17/32 | 1.34819 | 497.0345 | 1.34981 | 500.7572 | 1.35143 | 504.4937 |
| 9/16 | 1.34824 | 497.1506 | 1.34986 | 500.8737 | 1.35148 | 504.6107 |
| 19/32 | 1.34829 | 497.2668 | 1.34991 | 500.9903 | 1.35153 | 504.7277 |
| 5/8 | 1.34835 | 497.3829 | 1.34997 | 501.1069 | 1.35158 | 504.8447 |
| 21/32 | 1.34840 | 497.4991 | 1.35002 | 501.2235 | 1.35163 | 504.9618 |
| 11/16 | 1.34845 | 497.6153 | 1.35007 | 501.3401 | 1.35168 | 505.0788 |
| 23/32 | 1.34850 | 497.7315 | 1.35012 | 501.4567 | 1.35173 | 505.1959 |
| 3/4 | 1.34855 | 497.8477 | 1.35017 | 501.5734 | 1.35178 | 505.3129 |
| 25/32 | 1.34860 | 497.9639 | 1.35022 | 501.6900 | 1.35183 | 505.4300 |
| 13/16 | 1.34865 | 498.0801 | 1.35027 | 501.8067 | 1.35188 | 505.5471 |
| 27/32 | 1.34870 | 498.1963 | 1.35032 | 501.9233 | 1.35193 | 505.6642 |
| 7/8 | 1.34875 | 498.3126 | 1.35037 | 502.0400 | 1.35198 | 505.7814 |
| 29/32 | 1.34880 | 498.4289 | 1.35042 | 502.1567 | 1.35203 | 505.8985 |
| 15/16 | 1.34885 | 498.5452 | 1.35047 | 502.2735 | 1.35208 | 506.0157 |
| 31/32 | 1.34890 | 498.6615 | 1.35052 | 502.3902 | 1.35213 | 506.1328 |
| 1 | 1.34895 | 498.7778 | 1.35057 | 502.5069 | 1.35218 | 506.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.35218 | 506.2500 | 1.35379 | 510.0069 | 1.35539 | 513.7778 |
| 1/32 | 1.35223 | 506.3672 | 1.35384 | 510.1246 | 1.35544 | 513.8958 |
| 1/16 | 1.35228 | 506.4844 | 1.35389 | 510.2422 | 1.35549 | 514.0139 |
| 3/32 | 1.35233 | 506.6016 | 1.35394 | 510.3599 | 1.35554 | 514.1320 |
| 1/8 | 1.35238 | 506.7189 | 1.35399 | 510.4775 | 1.35559 | 514.2501 |
| 5/32 | 1.35243 | 506.8361 | 1.35404 | 510.5952 | 1.35564 | 514.3682 |
| 3/16 | 1.35248 | 506.9534 | 1.35409 | 510.7129 | 1.35569 | 514.4864 |
| 7/32 | 1.35253 | 507.0706 | 1.35414 | 510.8306 | 1.35574 | 514.6045 |
| 1/4 | 1.35258 | 507.1879 | 1.35419 | 510.9484 | 1.35579 | 514.7227 |
| 9/32 | 1.35263 | 507.3052 | 1.35424 | 511.0661 | 1.35584 | 514.8408 |
| 5/16 | 1.35268 | 507.4226 | 1.35429 | 511.1838 | 1.35589 | 514.9590 |
| 11/32 | 1.35274 | 507.5399 | 1.35434 | 511.3016 | 1.35594 | 515.0772 |
| 3/8 | 1.35279 | 507.6572 | 1.35439 | 511.4194 | 1.35599 | 515.1954 |
| 13/32 | 1.35284 | 507.7746 | 1.35444 | 511.5372 | 1.35604 | 515.3136 |
| 7/16 | 1.35289 | 507.8920 | 1.35449 | 511.6550 | 1.35609 | 515.4319 |
| 15/32 | 1.35294 | 508.0093 | 1.35454 | 511.7728 | 1.35614 | 515.5501 |
| 1/2 | 1.35299 | 508.1267 | 1.35459 | 511.8906 | 1.35619 | 515.6684 |
| 17/32 | 1.35304 | 508.2441 | 1.35464 | 512.0085 | 1.35624 | 515.7867 |
| 9/16 | 1.35309 | 508.3616 | 1.35469 | 512.1263 | 1.35628 | 515.9050 |
| 19/32 | 1.35314 | 508.4790 | 1.35474 | 512.2442 | 1.35633 | 516.0233 |
| 5/8 | 1.35319 | 508.5965 | 1.35479 | 512.3621 | 1.35638 | 516.1416 |
| 21/32 | 1 35324 | 508.7139 | 1.35484 | 512.4800 | 1.35643 | 516.2599 |
| 11/16 | 1.35329 | 508.8314 | 1.35489 | 512.5979 | 1.35648 | 516.3783 |
| 23/32 | 1.35334 | 508.9489 | 1.35494 | 512.7158 | 1.35653 | 516.4966 |
| 3/4 | 1.35339 | 509.0664 | 1.35499 | 512.8338 | 1.35658 | 516.6150 |
| 25/32 | 1.35344 | 509.1839 | 1.35504 | 512.9517 | 1.35663 | 516.7334 |
| 13/16 | 1.35349 | 509.3015 | 1.35509 | 513.0697 | 1.35668 | 516.8518 |
| 27/32 | 1.35354 | 509.4190 | 1.35514 | 513.1877 | 1.35673 | 516.9702 |
| 7/8 | 1.35359 | 509.5366 | 1.35519 | 513.3057 | 1.35678 | 517.0887 |
| 29/32 | 1.35364 | 509.6541 | 1.35524 | 513.4237 | 1.35683 | 517.2071 |
| 15/16 | 1.35369 | 509.7717 | 1.35529 | 513.5417 | 1.35688 | 517.3255 |
| 31/32 | 1.35374 | 509.8893 | 1.35534 | 513.6597 | 1.35693 | 517.4440 |
| 1 | 1.35379 | 510.0069 | 1.35539 | 513.7778 | 1.35698 | 517.5625 |

| Fractions of an inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.35698 | 517.5625 | 1.35857 | 521.3611 | 1.36015 | 525.1736 |
| 1/32 | 1.35703 | 517.6810 | 1.35862 | 521.4800 | 1.36020 | 525.2930 |
| 1/16 | 1.35708 | 517.7995 | 1.35867 | 521.5990 | 1.36025 | 525.4124 |
| 3/32 | 1.35713 | 517.9180 | 1.35872 | 521.7179 | 1.36030 | 525.5317 |
| 1/8 | 1.35718 | 518.0366 | 1.35877 | 521.8369 | 1.36035 | 525.6512 |
| 5/32 | 1.35723 | 518.1551 | 1.35882 | 521.9559 | 1.36040 | 525.7706 |
| 3/16 | 1.35728 | 518.2737 | 1.35887 | 522.0749 | 1.36045 | 525.8900 |
| 7/32 | 1.35733 | 518.3923 | 1.35892 | 522.1939 | 1.36050 | 526.0094 |
| 1/4 | 1.35738 | 518.5109 | 1.35897 | 522.3129 | 1.36055 | 526.1289 |
| 9/32 | 1.35743 | 518.6295 | 1.35901 | 522.4320 | 1.36060 | 526.2484 |
| 5/16 | 1.35748 | 518.7481 | 1.35906 | 522.5510 | 1.36064 | 526.3679 |
| 11/32 | 1.35753 | 518.8667 | 1.35911 | 522.6701 | 1.36069 | 526.4874 |
| 3/8 | 1.35758 | 518.9854 | 1.35916 | 522.7892 | 1.36074 | 526.6069 |
| 13/32 | 1.35763 | 519.1040 | 1.35921 | 522.9083 | 1.36079 | 526.7264 |
| 7/16 | 1.35768 | 519.2227 | 1.35926 | 523.0274 | 1.36084 | 526.8459 |
| 15/32 | 1.35773 | 519.3414 | 1.35931 | 523.1465 | 1.36089 | 526.9655 |
| 1/2 | 1.35778 | 519.4601 | 1.35936 | 523.2656 | 1.36094 | 527.0851 |
| 17/32 | 1.35783 | 519.5788 | 1.35941 | 523.3848 | 1.36099 | 527.2047 |
| 9/16 | 1.35788 | 519.6975 | 1.35946 | 523.5039 | 1.36104 | 527.3242 |
| 19/32 | 1.35792 | 519.8163 | 1.35951 | 523.6231 | 1.36109 | 527.4439 |
| 5/8 | 1.35797 | 519.9350 | 1.35956 | 523.7423 | 1.36114 | 527.5635 |
| 21/32 | 1.35802 | 520.0538 | 1.35961 | 523.8615 | 1.36119 | 527.6831 |
| 11/16 | 1.35807 | 520.1726 | 1.35966 | 523.9807 | 1.36124 | 527.8028 |
| 23/32 | 1.35812 | 520.2913 | 1.35971 | 524.0999 | 1.36129 | 527.9224 |
| 3/4 | 1.35817 | 520.4102 | 1.35976 | 524.2192 | 1.36133 | 528.0421 |
| 25/32 | 1.35822 | 520.5290 | 1.35981 | 524.3384 | 1.36138 | 528.1618 |
| 13/16 | 1.35827 | 520.6478 | 1.35986 | 524.4577 | 1.36143 | 528.2815 |
| 27/32 | 1.35832 | 520.7667 | 1.35990 | 524.5770 | 1.36148 | 528.4012 |
| 7/8 | 1.35837 | 520.8855 | 1.35995 | 524.6963 | 1.36153 | 528.5209 |
| 29/32 | 1.35842 | 521.0044 | 1.36000 | 524.8156 | 1.36158 | 528.6407 |
| 15/16 | 1.35847 | 521.1233 | 1.36005 | 524.9349 | 1.36163 | 528.7604 |
| 31/32 | 1.35852 | 521.2422 | 1.36010 | 525.0543 | 1.36168 | 528.8802 |
| 1 | 1.35857 | 521.3611 | 1.36015 | 525.1736 | 1.36173 | 529.0000 |

| Fractions of an Inch. | 0" | | 1" | | 2" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.36173 | 529.0000 | 1.36330 | 532.8403 | 1.36486 | 536.6944 |
| 1/32 | 1.36178 | 529.1198 | 1.36335 | 532.9605 | 1.36491 | 536.8151 |
| 1/16 | 1.36183 | 529.2396 | 1.36340 | 533.0808 | 1.36496 | 536.9358 |
| 3/32 | 1.36188 | 529.3594 | 1.36345 | 533.2010 | 1.36501 | 537.0565 |
| 1/8 | 1.36192 | 529.4793 | 1.36349 | 533.3213 | 1.36506 | 537.1772 |
| 5/32 | 1.36197 | 529.5991 | 1.36354 | 533.4416 | 1.36511 | 537.2979 |
| 3/16 | 1.36202 | 529.7190 | 1.36359 | 533.5619 | 1.36516 | 537.4186 |
| 7/32 | 1.36207 | 529.8389 | 1.36364 | 533.6822 | 1.36521 | 537.5394 |
| 1/4 | 1.36212 | 529.9588 | 1.36369 | 533.8025 | 1.36525 | 537.6602 |
| 9/32 | 1.36217 | 530.0787 | 1.36374 | 533.9229 | 1.36530 | 537.7809 |
| 5/16 | 1.36222 | 530.1986 | 1.36379 | 534.0432 | 1.36535 | 537.9017 |
| 11/32 | 1.36227 | 530.3185 | 1.36384 | 534.1636 | 1.36540 | 538.0225 |
| 3/8 | 1.36232 | 530.4385 | 1.36389 | 534.2840 | 1.36545 | 538.1433 |
| 13/32 | 1.36237 | 530.5584 | 1.36393 | 534.4044 | 1.36550 | 538.2642 |
| 7/16 | 1.36242 | 530.6784 | 1.36398 | 534.5248 | 1.36555 | 538.3850 |
| 15/32 | 1.36246 | 530.7984 | 1.36403 | 534.6452 | 1.36560 | 538.5059 |
| 1/2 | 1.36251 | 530.9184 | 1.36408 | 534.7656 | 1.36564 | 538.6267 |
| 17/32 | 1.36256 | 531.0384 | 1.36413 | 534.8861 | 1.36569 | 538.7476 |
| 9/16 | 1.36261 | 531.1584 | 1.36418 | 535.0065 | 1.36574 | 538.8685 |
| 19/32 | 1.36266 | 531.2785 | 1.36423 | 535.1270 | 1.36579 | 538.9894 |
| 5/8 | 1.36271 | 531.3985 | 1.36428 | 535.2475 | 1.36584 | 539.1104 |
| 21/32 | 1.36276 | 531.5186 | 1.36433 | 535.3680 | 1.36589 | 539.2313 |
| 11/16 | 1.36281 | 531.6387 | 1.36438 | 535.4885 | 1.36594 | 539.3522 |
| 23/32 | 1.36286 | 531.7588 | 1.36442 | 535.6091 | 1.36598 | 539.4732 |
| 3/4 | 1.36291 | 531.8789 | 1.36447 | 535.7296 | 1.36603 | 539.5942 |
| 25/32 | 1.36296 | 531.9990 | 1.36452 | 535.8502 | 1.36608 | 539.7152 |
| 13/16 | 1.36300 | 532.1192 | 1.36457 | 535.9707 | 1.36613 | 539.8362 |
| 27/32 | 1.36305 | 532.2393 | 1.36462 | 536.0913 | 1.36618 | 539.9572 |
| 7/8 | 1.36310 | 532.3595 | 1.36467 | 536.2119 | 1.36623 | 540.0782 |
| 29/32 | 1.36315 | 532.4797 | 1.36472 | 536.3325 | 1.36628 | 540.1993 |
| 15/16 | 1.36320 | 532.5999 | 1.36477 | 536.4532 | 1.36633 | 540.3203 |
| 31/32 | 1.36325 | 532.7201 | 1.36481 | 536.5738 | 1.36637 | 540.4414 |
| 1 | 1.36330 | 532.8403 | 1.36486 | 536.6944 | 1.36642 | 540.5625 |

| Fractions of an inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.36642 | 540.5625 | 1.36798 | 544.4444 | 1.36953 | 548.3403 |
| 1/32 | 1.36647 | 540.6836 | 1.36803 | 544.5660 | 1.36957 | 548.4622 |
| 1/16 | 1.36652 | 540.8047 | 1.36807 | 544.6875 | 1.36962 | 548.5842 |
| 3/32 | 1.36657 | 540.9258 | 1.36812 | 544.8091 | 1.36967 | 548.7062 |
| 1/8 | 1.36662 | 541.0470 | 1.36817 | 544.9307 | 1.36972 | 548.8282 |
| 5/32 | 1.36667 | 541.1681 | 1.36822 | 545.0523 | 1.36977 | 548.9503 |
| 3/16 | 1.36671 | 541.2893 | 1.36827 | 545.1739 | 1.36981 | 549.0723 |
| 7/32 | 1.36676 | 541.4105 | 1.36832 | 545.2955 | 1.36986 | 549.1943 |
| 1/4 | 1.36681 | 541.5317 | 1.36836 | 545.4171 | 1.36991 | 549.3164 |
| 9/32 | 1.36686 | 541.6529 | 1.36841 | 545.5387 | 1.36996 | 549.4385 |
| 5/16 | 1.36691 | 541.7741 | 1.36846 | 545.6604 | 1.37001 | 549.5606 |
| 11/32 | 1.36696 | 541.8954 | 1.36851 | 545.7821 | 1.37006 | 549.6827 |
| 3/8 | 1.36701 | 542.0166 | 1.36856 | 545.9038 | 1.37010 | 549.8048 |
| 13/32 | 1.36705 | 542.1379 | 1.36861 | 546.0255 | 1.37015 | 549.9269 |
| 7/16 | 1.36710 | 542.2591 | 1.36865 | 546.1472 | 1.37020 | 550.0491 |
| 15/32 | 1.36715 | 542.3804 | 1.36870 | 546.2689 | 1.37025 | 550.1712 |
| 1/2 | 1.36720 | 542.5017 | 1.36875 | 546.3906 | 1.37030 | 550.2934 |
| 17/32 | 1.36725 | 542.6231 | 1.36880 | 546.5124 | 1.37035 | 550.4156 |
| 9/16 | 1.36730 | 542.7444 | 1.36885 | 546.6341 | 1.37039 | 550.5378 |
| 19/32 | 1.36735 | 542.8657 | 1.36890 | 546.7559 | 1.37044 | 550.6600 |
| 5/8 | 1.36739 | 542.9871 | 1.36895 | 546.8777 | 1.37049 | 550.7822 |
| 21/32 | 1.36744 | 543.1085 | 1.36899 | 546.9995 | 1.37054 | 550.9045 |
| 11/16 | 1.36749 | 543.2298 | 1.36904 | 547.1213 | 1.37059 | 551.0267 |
| 23/32 | 1.36754 | 543.3512 | 1.36909 | 547.2432 | 1.37063 | 551.1490 |
| 3/4 | 1.36759 | 543.4727 | 1.36914 | 547.3650 | 1.37068 | 551.2713 |
| 25/32 | 1.36764 | 543.5941 | 1.36919 | 547.4869 | 1.37073 | 551.3936 |
| 13/16 | 1.36769 | 543.7155 | 1.36924 | 547.6088 | 1.37078 | 551.5159 |
| 27/32 | 1.36773 | 543.8370 | 1.36928 | 547.7306 | 1.37083 | 551.6382 |
| 7/8 | 1.36778 | 543.9584 | 1.36933 | 547.8525 | 1.37088 | 551.7605 |
| 29/32 | 1.36783 | 544.0799 | 1.36938 | 547.9745 | 1.37092 | 551.8829 |
| 15/16 | 1.36788 | 544.2014 | 1.36943 | 548.0964 | 1.37097 | 552.0052 |
| 31/32 | 1.36793 | 544.3229 | 1.36948 | 548.2183 | 1.37102 | 552.1276 |
| 1 | 1.36798 | 544.4444 | 1.36953 | 548.3403 | 1.37107 | 552.2500 |

| Fractions of an Inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.37107 | 552.2500 | 1.37261 | 556.1736 | 1.37414 | 560.1111 |
| 1/32 | 1.37112 | 552.3724 | 1.37265 | 556.2964 | 1.37418 | 560.2344 |
| 1/16 | 1.37116 | 552.4948 | 1.37270 | 556.4193 | 1.37423 | 560.3577 |
| 3/32 | 1.37121 | 552.6172 | 1.37275 | 556.5422 | 1.37428 | 560.4810 |
| 1/8 | 1.37126 | 552.7397 | 1.37280 | 556.6650 | 1.37433 | 560.6043 |
| 5/32 | 1.37131 | 552.8621 | 1.37284 | 556.7879 | 1.37438 | 560.7276 |
| 3/16 | 1.37136 | 552.9846 | 1.37289 | 556.9108 | 1.37442 | 560.8509 |
| 7/32 | 1.37140 | 553.1071 | 1.37294 | 557.0338 | 1.37447 | 560.9743 |
| 1/4 | 1.37145 | 553.2296 | 1.37299 | 557.1567 | 1.37452 | 561.0977 |
| 9/32 | 1.37150 | 553.3521 | 1.37304 | 557.2796 | 1.37457 | 561.2210 |
| 5/16 | 1.37155 | 553.4746 | 1.37308 | 557.4026 | 1.37461 | 561.3444 |
| 11/32 | 1.37160 | 553.5972 | 1.37313 | 557.5256 | 1.37466 | 561.4678 |
| 3/8 | 1.37164 | 553.7197 | 1.37318 | 557.6485 | 1.37471 | 561.5913 |
| 13/32 | 1.37169 | 553.8423 | 1.37323 | 557.7715 | 1.37476 | 561.7147 |
| 7/16 | 1.37174 | 553.9649 | 1.37328 | 557.8946 | 1.37481 | 561.8381 |
| 15/32 | 1.37179 | 554.0875 | 1.37332 | 558.0176 | 1.37485 | 561.9616 |
| 1/2 | 1.37184 | 554.2101 | 1.37337 | 558.1406 | 1.37490 | 562.0851 |
| 17/32 | 1.37189 | 554.3327 | 1.37342 | 558.2637 | 1.37495 | 562.2086 |
| 9/16 | 1.37193 | 554.4553 | 1.37347 | 558.3867 | 1.37500 | 562.3321 |
| 19/32 | 1.37198 | 554.5780 | 1.37352 | 558.5098 | 1.37504 | 562.4556 |
| 5/8 | 1.37203 | 554.7006 | 1.37356 | 558.6329 | 1.37509 | 562.5791 |
| 21/32 | 1 37208 | 554.8233 | 1.37361 | 558.7560 | 1.37514 | 562.7026 |
| 11/16 | 1.37213 | 554.9460 | 1.37366 | 558.8792 | 1.37519 | 562.8262 |
| 23/32 | 1.37217 | 555.0687 | 1.37371 | 559.0023 | 1.37523 | 562.9498 |
| 3/4 | 1.37222 | 555.1914 | 1.37375 | 559.1254 | 1.37528 | 563.0734 |
| 25/32 | 1.37227 | 555.3141 | 1.37380 | 559.2486 | 1.37533 | 563.1969 |
| 13/16 | 1.37232 | 555.4369 | 1.37385 | 559.3718 | 1.37538 | 563.3206 |
| 27/32 | 1.37237 | 555.5596 | 1.37390 | 559.4950 | 1.37543 | 563.4442 |
| 7/8 | 1.37241 | 555.6824 | 1.37395 | 559.6182 | 1.37547 | 563.5678 |
| 29/32 | 1.37246 | 555.8052 | 1.37399 | 559.7414 | 1.37552 | 563.6915 |
| 15/16 | 1.37251 | 555.9280 | 1.37404 | 559.8646 | 1.37557 | 563.8151 |
| 31/32 | 1.37256 | 556.0508 | 1.37409 | 559.9879 | 1.37562 | 563.9388 |
| 1 | 1.37261 | 556.1736 | 1.37414 | 560.1111 | 1.37566 | 564.0625 |

| Fractions of an inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.37566 | 564.0625 | 1.37718 | 568.0278 | 1.37870 | 572.0069 |
| 1/32 | 1.37571 | 564.1862 | 1.37723 | 568.1519 | 1.37875 | 572.1315 |
| 1/16 | 1.37576 | 564.3099 | 1.37728 | 568.2761 | 1.37880 | 572.2561 |
| 3/32 | 1.37581 | 564.4337 | 1.37733 | 568.4002 | 1.37884 | 572.3807 |
| 1/8 | 1.37585 | 564.5574 | 1.37737 | 568.5244 | 1.37889 | 572.5053 |
| 5/32 | 1.37590 | 564.6812 | 1.37742 | 568.6486 | 1.37894 | 572.6299 |
| 3/16 | 1.37595 | 564.8049 | 1.37747 | 568.7728 | 1.37898 | 572.7546 |
| 7/32 | 1.37600 | 564.9287 | 1.37752 | 568.8970 | 1.37903 | 572.8792 |
| 1/4 | 1.37604 | 565.0525 | 1.37756 | 569.0213 | 1.37908 | 573.0039 |
| 9/32 | 1.37609 | 565.1763 | 1.37761 | 569.1455 | 1.37913 | 573.1286 |
| 5/16 | 1.37614 | 565.3002 | 1.37766 | 569.2698 | 1.37917 | 573.2533 |
| 11/32 | 1.37619 | 565.4240 | 1.37771 | 569.3940 | 1.37922 | 573.3780 |
| 3/8 | 1.37623 | 565.5479 | 1.37775 | 569.5183 | 1.37927 | 573.5027 |
| 13/32 | 1.37628 | 565.6717 | 1.37780 | 569.6426 | 1.37931 | 573.6274 |
| 7/16 | 1.37633 | 565.7956 | 1.37785 | 569.7670 | 1.37936 | 573.7522 |
| 15/32 | 1.37638 | 565.9195 | 1.37790 | 569.8913 | 1.37941 | 573.8770 |
| 1/2 | 1.37642 | 566.0434 | 1.37794 | 570.0156 | 1.37946 | 574.0017 |
| 17/32 | 1.37647 | 566.1673 | 1.37799 | 570.1400 | 1.37950 | 574.1265 |
| 9/16 | 1.37652 | 566.2913 | 1.37804 | 570.2644 | 1.37955 | 574.2513 |
| 19/32 | 1.37657 | 566.4152 | 1.37809 | 570.3887 | 1.37960 | 574.3761 |
| 5/8 | 1.37661 | 566.5392 | 1.37813 | 570.5131 | 1.37965 | 574.5010 |
| 21/32 | 1.37666 | 566.6631 | 1.37818 | 570.6375 | 1.37969 | 574.6258 |
| 11/16 | 1.37671 | 566.7871 | 1.37823 | 570.7620 | 1.37974 | 574.7507 |
| 23/32 | 1.37676 | 566.9111 | 1.37827 | 570.8864 | 1.37979 | 574.8755 |
| 3/4 | 1.37680 | 567.0352 | 1.37832 | 571.0109 | 1.37983 | 575.0004 |
| 25/32 | 1.37685 | 567.1592 | 1.37837 | 571.1353 | 1.37988 | 575.1253 |
| 13/16 | 1.37690 | 567.2832 | 1.37842 | 571.2598 | 1.37993 | 575.2502 |
| 27/32 | 1.37695 | 567.4073 | 1.37846 | 571.3843 | 1.37998 | 575.3752 |
| 7/8 | 1.37699 | 567.5314 | 1.37851 | 571.5088 | 1.38002 | 575.5001 |
| 29/32 | 1.37704 | 567.6554 | 1.37856 | 571.6333 | 1.38007 | 575.6251 |
| 15/16 | 1.37709 | 567.7795 | 1.37861 | 571.7578 | 1.38012 | 575.7500 |
| 31/32 | 1.37714 | 567.9037 | 1.37865 | 571.8824 | 1.38016 | 575.8750 |
| 1 | 1.37718 | 568.0278 | 1.37870 | 572.0069 | 1.38021 | 576.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.38021 | 576.0000 | 1.38172 | 580.0069 | 1.38322 | 584.0278 |
| 1/32 | 1.38026 | 576.1250 | 1.38176 | 580.1324 | 1.38326 | 584.1537 |
| 1/16 | 1.38031 | 576.2500 | 1.38181 | 580.2578 | 1.38331 | 584.2795 |
| 3/32 | 1.38035 | 576.3751 | 1.38186 | 580.3833 | 1.38336 | 584.4054 |
| 1/8 | 1.38040 | 576.5001 | 1.38190 | 580.5088 | 1.38340 | 584.5314 |
| 5/32 | 1.38045 | 576.6252 | 1.38195 | 580.6343 | 1.38345 | 584.6573 |
| 3/16 | 1.38049 | 576.7502 | 1.38200 | 580.7598 | 1.38350 | 584.7832 |
| 7/32 | 1.38054 | 576.8753 | 1.38205 | 580.8853 | 1.38354 | 584.9092 |
| 1/4 | 1.38059 | 577.0004 | 1.38209 | 581.0109 | 1.38359 | 585.0352 |
| 9/32 | 1.38064 | 577.1255 | 1.38214 | 581.1364 | 1.38364 | 585.1611 |
| 5/16 | 1.38068 | 577.2507 | 1.38219 | 581.2620 | 1.38368 | 585.2871 |
| 11/32 | 1.38073 | 577.3758 | 1.38223 | 581.3875 | 1.38373 | 585.4131 |
| 3/8 | 1.38078 | 577.5010 | 1.38228 | 581.5131 | 1.38378 | 585.5392 |
| 13/32 | 1.38082 | 577.6261 | 1.38233 | 581.6387 | 1.38382 | 585.6652 |
| 7/16 | 1.38087 | 577.7513 | 1.38237 | 581.7644 | 1.38387 | 585.7913 |
| 15/32 | 1.38092 | 577.8765 | 1.38242 | 581.8900 | 1.38392 | 585.9173 |
| 1/2 | 1.38096 | 578.0017 | 1.38247 | 582.0156 | 1.38396 | 586.0434 |
| 17/32 | 1.38101 | 578.1270 | 1.38251 | 582.1413 | 1.38401 | 586.1695 |
| 9/16 | 1.38106 | 578.2522 | 1.38256 | 582.2670 | 1.38406 | 586.2956 |
| 19/32 | 1.38111 | 578.3774 | 1.38261 | 582.3926 | 1.38411 | 586.4217 |
| 5/8 | 1.38115 | 578.5027 | 1.38265 | 582.5183 | 1.38415 | 586.5479 |
| 21/32 | 1.38120 | 578.6280 | 1.38270 | 582.6440 | 1.38420 | 586.6740 |
| 11/16 | 1.38125 | 578.7533 | 1.38275 | 582.7698 | 1.38425 | 586.8002 |
| 23/32 | 1.38129 | 578.8786 | 1.38280 | 582.8955 | 1.38429 | 586.9263 |
| 3/4 | 1.38134 | 579.0039 | 1.38284 | 583.0213 | 1.38434 | 587.0525 |
| 25/32 | 1.38139 | 579.1292 | 1.38289 | 583.1470 | 1.38439 | 587.1787 |
| 13/16 | 1.38143 | 579.2546 | 1.38294 | 583.2728 | 1.38443 | 587.3049 |
| 27/32 | 1.38148 | 579.3799 | 1.38298 | 583.3986 | 1.38448 | 587.4312 |
| 7/8 | 1.38153 | 579.5053 | 1.38303 | 583.5244 | 1.38453 | 587.5574 |
| 29/32 | 1.38158 | 579.6307 | 1.38308 | 583.6502 | 1.38457 | 587.6837 |
| 15/16 | 1.38162 | 579.7561 | 1.38312 | 583.7761 | 1.38462 | 587.8099 |
| 31/32 | 1.38167 | 579.8815 | 1.38317 | 583.9019 | 1.38467 | 587.9362 |
| 1 | 1.38172 | 580.0069 | 1.38322 | 584.0278 | 1.38471 | 588.0625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.38471 | 588.0625 | 1.38620 | 592.1111 | 1.38769 | 596.1736 |
| 1/32 | 1.38476 | 588.1888 | 1.38625 | 592.2379 | 1.38773 | 596.3008 |
| 1/16 | 1.38481 | 588.3151 | 1.38629 | 592.3646 | 1.38778 | 596.4280 |
| 3/32 | 1.38485 | 588.4415 | 1.38634 | 592.4914 | 1.38783 | 596.5552 |
| 1/8 | 1.38490 | 588.5678 | 1.38639 | 592.6182 | 1.38787 | 596.6824 |
| 5/32 | 1.38494 | 588.6942 | 1.38643 | 592.7450 | 1.38792 | 596.8096 |
| 3/16 | 1.38499 | 588.8206 | 1.38648 | 592.8718 | 1.38796 | 596.9369 |
| 7/32 | 1.38504 | 588.9469 | 1.38653 | 592.9986 | 1.38801 | 597.0641 |
| 1/4 | 1.38508 | 589.0734 | 1.38657 | 593.1254 | 1.38806 | 597.1914 |
| 9/32 | 1.38513 | 589.1998 | 1.38662 | 593.2523 | 1.38810 | 597.3187 |
| 5/16 | 1.38518 | 589.3262 | 1.38667 | 593.3792 | 1.38815 | 597.4460 |
| 11/32 | 1.38522 | 589.4526 | 1.38671 | 593.5060 | 1.38820 | 597.5733 |
| 3/8 | 1.38527 | 589.5791 | 1.38676 | 593.6329 | 1.38824 | 597.7006 |
| 13/32 | 1.38532 | 589.7056 | 1.38681 | 593.7598 | 1.38829 | 597.8280 |
| 7/16 | 1.38536 | 589.8321 | 1.38685 | 593.8867 | 1.38833 | 597.9553 |
| 15/32 | 1.38541 | 589.9586 | 1.38690 | 594.0137 | 1.38838 | 598.0827 |
| 1/2 | 1.38546 | 590.0851 | 1.38694 | 594.1406 | 1.38843 | 598.2101 |
| 17/32 | 1.38550 | 590.2116 | 1.38699 | 594.2676 | 1.38847 | 598.3375 |
| 9/16 | 1.38555 | 590.3381 | 1.38704 | 594.3946 | 1.38852 | 598.4649 |
| 19/32 | 1.38560 | 590.4647 | 1.38708 | 594.5215 | 1.38857 | 598.5923 |
| 5/8 | 1.38564 | 590.5913 | 1.38713 | 594.6485 | 1.38861 | 598.7197 |
| 21/32 | 1.38569 | 590.7178 | 1.38718 | 594.7756 | 1.38866 | 598.8472 |
| 11/16 | 1.38574 | 590.8444 | 1.38722 | 594.9026 | 1.38870 | 598.9746 |
| 23/32 | 1.38578 | 590.9710 | 1.38727 | 595.0296 | 1.38875 | 599.1021 |
| 3/4 | 1.38583 | 591.0977 | 1.38732 | 595.1567 | 1.38880 | 599.2296 |
| 25/32 | 1.38588 | 591.2243 | 1.38736 | 595.2838 | 1.38884 | 599.3571 |
| 13/16 | 1.38592 | 591.3509 | 1.38741 | 595.4108 | 1.38889 | 599.4846 |
| 27/32 | 1.38597 | 591.4776 | 1.38745 | 595.5379 | 1.38894 | 599.6121 |
| 7/8 | 1.38602 | 591.6043 | 1.38750 | 595.6650 | 1.38898 | 599.7397 |
| 29/32 | 1.38606 | 591.7310 | 1.38755 | 595.7922 | 1.38903 | 599.8672 |
| 15/16 | 1.38611 | 591.8577 | 1.38759 | 595.9193 | 1.38907 | 599.9948 |
| 31/32 | 1.38616 | 591.9844 | 1.38764 | 596.0464 | 1.38912 | 600.1224 |
| 1 | 1.38620 | 592.1111 | 1.38769 | 596.1736 | 1.38917 | 600.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.38917 | 600.2500 | 1.39064 | 604.3403 | 1.39211 | 608.4444 |
| 1/32 | 1.38921 | 600.3776 | 1.39069 | 604.4683 | 1.39216 | 608.5729 |
| 1/16 | 1.38926 | 600.5052 | 1.39073 | 604.5964 | 1.39220 | 608.7014 |
| 3/32 | 1.38930 | 600.6329 | 1.39078 | 604.7245 | 1.39225 | 608.8299 |
| 1/8 | 1.38935 | 600.7605 | 1.39082 | 604.8525 | 1.39229 | 608.9584 |
| 5/32 | 1.38940 | 600.8882 | 1.39087 | 604.9806 | 1.39234 | 609.0870 |
| 3/16 | 1.38944 | 601.0159 | 1.39092 | 605.1088 | 1.39239 | 609.2155 |
| 7/32 | 1.38949 | 601.1436 | 1.39096 | 605.2369 | 1.39243 | 609.3441 |
| 1/4 | 1.38954 | 601.2713 | 1.39101 | 605.3650 | 1.39248 | 609.4727 |
| 9/32 | 1.38958 | 601.3990 | 1.39105 | 605.4932 | 1.39252 | 609.6012 |
| 5/16 | 1.38963 | 601.5267 | 1.39110 | 605.6213 | 1.39257 | 609.7298 |
| 11/32 | 1.38967 | 601.6545 | 1.39115 | 605.7495 | 1.39261 | 609.8585 |
| 3/8 | 1.38972 | 601.7822 | 1.39119 | 605.8777 | 1.39266 | 609.9871 |
| 13/32 | 1.38977 | 601.9100 | 1.39124 | 606.0059 | 1.39271 | 610.1157 |
| 7/16 | 1.38981 | 602.0378 | 1.39128 | 606.1341 | 1.39275 | 610.2444 |
| 15/32 | 1.38986 | 602.1656 | 1.39133 | 606.2624 | 1.39280 | 610.3731 |
| 1/2 | 1.38990 | 602.2934 | 1.39138 | 606.3906 | 1.39284 | 610.5017 |
| 17/32 | 1.38995 | 602.4212 | 1.39142 | 606.5189 | 1.39289 | 610.6304 |
| 9/16 | 1.39000 | 602.5491 | 1.39147 | 606.6472 | 1.39293 | 610.7591 |
| 19/32 | 1.39004 | 602.6769 | 1.39151 | 606.7755 | 1.39298 | 610.8879 |
| 5/8 | 1.39009 | 602.8048 | 1.39156 | 606.9038 | 1.39303 | 611.0166 |
| 21/32 | 1.39013 | 602.9327 | 1.39161 | 607.0321 | 1.39307 | 611.1454 |
| 11/16 | 1.39018 | 603.0606 | 1.39165 | 607.1604 | 1.39312 | 611.2741 |
| 23/32 | 1.39023 | 603.1885 | 1.39170 | 607.2887 | 1.39316 | 611.4029 |
| 3/4 | 1.39027 | 603.3164 | 1.39174 | 607.4171 | 1.39321 | 611.5317 |
| 25/32 | 1.39032 | 603.4443 | 1.39179 | 607.5455 | 1.39326 | 611.6605 |
| 13/16 | 1.39036 | 603.5723 | 1.39184 | 607.6739 | 1.39330 | 611.7893 |
| 27/32 | 1.39041 | 603.7003 | 1.39188 | 607.8023 | 1.39335 | 611.9181 |
| 7/8 | 1.39046 | 603.8282 | 1.39193 | 607.9307 | 1.39339 | 612.0470 |
| 29/32 | 1.39050 | 603.9562 | 1.39197 | 608.0591 | 1.39344 | 612.1758 |
| 15/16 | 1.39055 | 604.0842 | 1.39202 | 608.1875 | 1.39348 | 612.3047 |
| 31/32 | 1.39059 | 604.2122 | 1.39206 | 608.3160 | 1.39353 | 612.4336 |
| 1 | 1.39064 | 604.3403 | 1.39211 | 608.4444 | 1.39358 | 612.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.39358 | 612.5625 | 1.39504 | 616.6944 | 1.39649 | 620.8403 |
| 1/32 | 1.39362 | 612.6914 | 1.39508 | 616.8238 | 1.39654 | 620.9701 |
| 1/16 | 1.39367 | 612.8203 | 1.39513 | 616.9532 | 1.39658 | 621.0999 |
| 3/32 | 1.39371 | 612.9493 | 1.39517 | 617.0825 | 1.39663 | 621.2297 |
| 1/8 | 1.39376 | 613.0782 | 1.39522 | 617.2119 | 1.39667 | 621.3595 |
| 5/32 | 1.39380 | 613.2072 | 1.39526 | 617.3413 | 1.39672 | 621.4893 |
| 3/16 | 1.39385 | 613.3362 | 1.39531 | 617.4707 | 1.39676 | 621.6192 |
| 7/32 | 1.39389 | 613.4652 | 1.39535 | 617.6002 | 1.39681 | 621.7490 |
| 1/4 | 1.39394 | 613.5942 | 1.39540 | 617.7296 | 1.39685 | 621.8789 |
| 9/32 | 1.39399 | 613.7232 | 1.39544 | 617.8591 | 1.39690 | 622.0088 |
| 5/16 | 1.39403 | 613.8522 | 1.39549 | 617.9885 | 1.39694 | 622.1387 |
| 11/32 | 1.39408 | 613.9813 | 1.39554 | 618.1180 | 1.39699 | 622.2686 |
| 3/8 | 1.39412 | 614.1104 | 1.39558 | 618.2475 | 1.39703 | 622.3985 |
| 13/32 | 1.39417 | 614.2394 | 1.39563 | 618.3770 | 1.39708 | 622.5285 |
| 7/16 | 1.39421 | 614.3685 | 1.39567 | 618.5065 | 1.39712 | 622.6584 |
| 15/32 | 1.39426 | 614.4976 | 1.39572 | 618.6361 | 1.39717 | 622.7884 |
| 1/2 | 1.39431 | 614.6267 | 1.39576 | 618.7656 | 1.39722 | 622.9184 |
| 17/32 | 1.39435 | 614.7559 | 1.39581 | 618.8952 | 1.39726 | 623.0484 |
| 9/16 | 1.39440 | 614.8850 | 1.39585 | 619.0248 | 1.39731 | 623.1784 |
| 19/32 | 1.39444 | 615.0142 | 1.39590 | 619.1544 | 1.39735 | 623.3084 |
| 5/8 | 1.39449 | 615.1433 | 1.39594 | 619.2840 | 1.39740 | 623.4385 |
| 21/32 | 1.39453 | 615.2725 | 1.39599 | 619.4136 | 1.39744 | 623.5685 |
| 11/16 | 1.39458 | 615.4017 | 1.39604 | 619.5432 | 1.39749 | 623.6986 |
| 23/32 | 1.39462 | 615.5309 | 1.39608 | 619.6729 | 1.39753 | 623.8287 |
| 3/4 | 1.39467 | 615.6602 | 1.39613 | 619.8025 | 1.39758 | 623.9588 |
| 25/32 | 1.39472 | 615.7894 | 1.39617 | 619.9322 | 1.39762 | 624.0889 |
| 13/16 | 1.39476 | 615.9186 | 1.39622 | 620.0619 | 1.39767 | 624.2190 |
| 27/32 | 1.39481 | 616.0479 | 1.39626 | 620.1916 | 1.39771 | 624.3491 |
| 7/8 | 1.39485 | 616.1772 | 1.39631 | 620.3213 | 1.39776 | 624.4793 |
| 29/32 | 1.39490 | 616.3065 | 1.39635 | 620.4510 | 1.39780 | 624.6094 |
| 15/16 | 1.39494 | 616.4358 | 1.39640 | 620.5808 | 1.39785 | 624.7396 |
| 31/32 | 1.39499 | 616.5651 | 1.39644 | 620.7105 | 1.39789 | 624.8698 |
| 1 | 1.39504 | 616.6944 | 1.39649 | 620.8403 | 1.39794 | 625.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.39794 | 625.0000 | 1.39939 | 629.1736 | 1.40083 | 633.3611 |
| 1/32 | 1.39799 | 625.1302 | 1.39943 | 629.3043 | 1.40087 | 633.4922 |
| 1/16 | 1.39803 | 625.2604 | 1.39948 | 629.4349 | 1.40092 | 633.6233 |
| 3/32 | 1.39808 | 625.3907 | 1.39952 | 629.5656 | 1.40096 | 633.7544 |
| 1/8 | 1.39812 | 625.5209 | 1.39957 | 629.6963 | 1.40101 | 633.8855 |
| 5/32 | 1.39817 | 625.6512 | 1.39961 | 629.8270 | 1.40105 | 634.0167 |
| 3/16 | 1.39821 | 625.7815 | 1.39966 | 629.9577 | 1.40110 | 634.1478 |
| 7/32 | 1.39826 | 625.9118 | 1.39970 | 630.0884 | 1.40114 | 634.2790 |
| 1/4 | 1.39830 | 626.0421 | 1.39975 | 630.2192 | 1.40119 | 634.4102 |
| 9/32 | 1.39835 | 626.1724 | 1.39979 | 630.3499 | 1.40123 | 634.5413 |
| 5/16 | 1.39839 | 626.3028 | 1.39984 | 630.4807 | 1.40127 | 634.6726 |
| 11/32 | 1.39844 | 626.4331 | 1.39988 | 630.6115 | 1.40132 | 634.8038 |
| 3/8 | 1.39848 | 626.5635 | 1.39993 | 630.7423 | 1.40136 | 634.9350 |
| 13/32 | 1.39853 | 626.6939 | 1.39997 | 630.8731 | 1.40141 | 635.0663 |
| 7/16 | 1.39857 | 626.8242 | 1.40002 | 631.0039 | 1.40145 | 635.1975 |
| 15/32 | 1.39862 | 626.9547 | 1.40006 | 631.1348 | 1.40150 | 635.3288 |
| 1/2 | 1.39866 | 627.0851 | 1.40011 | 631.2656 | 1.40154 | 635.4601 |
| 17/32 | 1.39871 | 627.2155 | 1.40015 | 631.3965 | 1.40159 | 635.5914 |
| 9/16 | 1.39875 | 627.3459 | 1.40020 | 631.5274 | 1.40163 | 635.7227 |
| 19/32 | 1.39880 | 627.4764 | 1.40024 | 631.6583 | 1.40168 | 635.8540 |
| 5/8 | 1.39884 | 627.6069 | 1.40029 | 631.7892 | 1.40172 | 635.9854 |
| 21/32 | 1.39889 | 627.7374 | 1.40033 | 631.9201 | 1.40177 | 636.1167 |
| 11/16 | 1.39893 | 627.8679 | 1.40038 | 632.0510 | 1.40181 | 636.2481 |
| 23/32 | 1.39898 | 627.9984 | 1.40042 | 632.1820 | 1.40186 | 636.3795 |
| 3/4 | 1.39902 | 628.1289 | 1.40047 | 632.3129 | 1.40190 | 636.5109 |
| 25/32 | 1.39907 | 628.2594 | 1.40051 | 632.4439 | 1.40195 | 636.6423 |
| 13/16 | 1.39911 | 628.3900 | 1.40056 | 632.5749 | 1.40199 | 636.7737 |
| 27/32 | 1.39916 | 628.5206 | 1.40060 | 632.7059 | 1.40204 | 636.9051 |
| 7/8 | 1.39920 | 628.6512 | 1.40065 | 632.8369 | 1.40208 | 637.0366 |
| 29/32 | 1.39925 | 628.7817 | 1.40069 | 632.9679 | 1.40213 | 637.1680 |
| 15/16 | 1.39930 | 628.9124 | 1.40074 | 633.0990 | 1.40217 | 637.2995 |
| 31/32 | 1.39934 | 629.0430 | 1.40078 | 633.2300 | 1.40222 | 637.4310 |
| 1 | 1.39939 | 629.1736 | 1.40083 | 633.3611 | 1.40226 | 637.5625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.40226 | 637.5625 | 1.40369 | 641.7778 | 1.40512 | 646.0069 |
| 1/32 | 1.40231 | 637.6940 | 1.40374 | 641.9097 | 1.40516 | 646.1393 |
| 1/16 | 1.40235 | 637.8255 | 1.40378 | 642.0417 | 1.40521 | 646.2717 |
| 3/32 | 1.40240 | 637.9571 | 1.40383 | 642.1737 | 1.40525 | 646.4041 |
| 1/8 | 1.40244 | 638.0887 | 1.40387 | 642.3057 | 1.40530 | 646.5366 |
| 5/32 | 1.40249 | 638.2202 | 1.40392 | 642.4377 | 1.40534 | 646.6690 |
| 3/16 | 1.40253 | 638.3518 | 1.40396 | 642.5697 | 1.40539 | 646.8015 |
| 7/32 | 1.40257 | 638.4834 | 1.40400 | 642.7017 | 1.40543 | 646.9339 |
| 1/4 | 1.40262 | 638.6150 | 1.40405 | 642.8338 | 1.40547 | 647.0664 |
| 9/32 | 1.40266 | 638.7466 | 1.40409 | 642.9658 | 1.40552 | 647.1989 |
| 5/16 | 1.40271 | 638.8783 | 1.40414 | 643.0979 | 1.40556 | 647.3314 |
| 11/32 | 1.40275 | 639.0099 | 1.40418 | 643.2300 | 1.40561 | 647.4639 |
| 3/8 | 1.40280 | 639.1416 | 1.40423 | 643.3621 | 1.40565 | 647.5965 |
| 13/32 | 1.40284 | 639.2733 | 1.40427 | 643.4942 | 1.40570 | 647.7290 |
| 7/16 | 1.40289 | 639.4050 | 1.40432 | 643.6263 | 1.40574 | 647.8616 |
| 15/32 | 1.40293 | 639.5367 | 1.40436 | 643.7585 | 1.40579 | 647.9941 |
| 1/2 | 1.40298 | 639.6684 | 1.40441 | 643.8906 | 1.40583 | 648.1267 |
| 17/32 | 1.40302 | 639.8001 | 1.40445 | 644.0228 | 1.40587 | 648.2593 |
| 9/16 | 1.40307 | 639.9319 | 1.40450 | 644.1550 | 1.40592 | 648.3920 |
| 19/32 | 1.40311 | 640.0636 | 1.40454 | 644.2872 | 1.40596 | 648.5246 |
| 5/8 | 1.40316 | 640.1954 | 1.40458 | 644.4194 | 1.40601 | 648.6572 |
| 21/32 | 1.40320 | 640.3272 | 1.40463 | 644.5516 | 1.40605 | 648.7899 |
| 11/16 | 1.40325 | 640.4590 | 1.40467 | 644.6838 | 1.40610 | 648.9226 |
| 23/32 | 1.40329 | 640.5908 | 1.40472 | 644.8161 | 1.40614 | 649.0552 |
| 3/4 | 1.40334 | 640.7227 | 1.40476 | 644.9484 | 1.40619 | 649.1879 |
| 25/32 | 1.40338 | 640.8545 | 1.40481 | 645.0806 | 1.40623 | 649.3206 |
| 13/16 | 1.40342 | 640.9864 | 1.40485 | 645.2129 | 1.40627 | 649.4534 |
| 27/32 | 1.40347 | 641.1182 | 1.40490 | 645.3452 | 1.40632 | 649.5861 |
| 7/8 | 1.40351 | 641.2501 | 1.40494 | 645.4775 | 1.40636 | 649.7189 |
| 29/32 | 1.40356 | 641.3820 | 1.40499 | 645.6099 | 1.40641 | 649.8516 |
| 15/16 | 1.40360 | 641.5139 | 1.40503 | 645.7422 | 1.40645 | 649.9844 |
| 31/32 | 1.40365 | 641.6458 | 1.40507 | 645.8746 | 1.40650 | 650.1172 |
| 1 | 1.40369 | 641.7778 | 1.40512 | 646.0069 | 1.40654 | 650.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.40654 | 650.2500 | 1.40796 | 654.5069 | 1.40937 | 658.7778 |
| 1/32 | 1.40658 | 650.3828 | 1.40800 | 654.6402 | 1.40941 | 658.9115 |
| 1/16 | 1.40663 | 650.5157 | 1.40805 | 654.7735 | 1.40946 | 659.0452 |
| 3/32 | 1.40667 | 650.6485 | 1.40809 | 654.9067 | 1.40950 | 659.1789 |
| 1/8 | 1.40672 | 650.7814 | 1.40813 | 655.0400 | 1.40955 | 659.3126 |
| 5/32 | 1.40676 | 650.9142 | 1.40818 | 655.1733 | 1.40959 | 659.4464 |
| 3/16 | 1.40681 | 651.0471 | 1.40822 | 655.3067 | 1.40963 | 659.5801 |
| 7/32 | 1.40685 | 651.1800 | 1.40827 | 655.4400 | 1.40968 | 659.7139 |
| 1/4 | 1.40689 | 651.3129 | 1.40831 | 655.5734 | 1.40972 | 659.8477 |
| 9/32 | 1.40694 | 651.4459 | 1.40835 | 655.7067 | 1.40977 | 659.9815 |
| 5/16 | 1.40698 | 651.5788 | 1.40840 | 655.8401 | 1.40981 | 660.1153 |
| 11/32 | 1.40703 | 651.7118 | 1.40844 | 655.9735 | 1.40985 | 660.2491 |
| 3/8 | 1.40707 | 651.8447 | 1.40849 | 656.1069 | 1.40990 | 660.3829 |
| 13/32 | 1.40712 | 651.9777 | 1.40853 | 656.2403 | 1.40994 | 660.5168 |
| 7/16 | 1.40716 | 652.1107 | 1.40858 | 656.3737 | 1.40999 | 660.6506 |
| 15/32 | 1.40720 | 652.2437 | 1.40862 | 656.5072 | 1.41003 | 660.7845 |
| 1/2 | 1.40725 | 652.3767 | 1.40866 | 656.6406 | 1.41007 | 660.9184 |
| 17/32 | 1.40729 | 652.5098 | 1.40871 | 656.7741 | 1.41012 | 661.0523 |
| 9/16 | 1.40734 | 652.6428 | 1.40875 | 656.9076 | 1.41016 | 661.1862 |
| 19/32 | 1.40738 | 652.7759 | 1.40880 | 657.0411 | 1.41021 | 661.3202 |
| 5/8 | 1.40743 | 652.9090 | 1.40884 | 657.1746 | 1.41025 | 661.4541 |
| 21/32 | 1.40747 | 653.0421 | 1.40888 | 657.3081 | 1.41029 | 661.5881 |
| 11/16 | 1.40751 | 653.1752 | 1.40893 | 657.4417 | 1.41034 | 661.7220 |
| 23/32 | 1.40756 | 653.3083 | 1.40897 | 657.5752 | 1.41038 | 661.8560 |
| 3/4 | 1.40760 | 653.4414 | 1.40902 | 657.7088 | 1.41043 | 661.9900 |
| 25/32 | 1.40765 | 653.5746 | 1.40906 | 657.8423 | 1.41047 | 662.1240 |
| 13/16 | 1.40769 | 653.7077 | 1.40911 | 657.9759 | 1.41051 | 662.2581 |
| 27/32 | 1.40774 | 653.8409 | 1.40915 | 658.1095 | 1.41056 | 662.3921 |
| 7/8 | 1.40778 | 653.9741 | 1.40919 | 658.2432 | 1.41060 | 662.5262 |
| 29/32 | 1.40782 | 654.1073 | 1.40924 | 658.3768 | 1.41065 | 662.6602 |
| 15/16 | 1.40787 | 654.2405 | 1.40928 | 658.5104 | 1.41069 | 662.7943 |
| 31/32 | 1.40791 | 654.3737 | 1.40933 | 658.6441 | 1.41073 | 662.9284 |
| 1 | 1.40796 | 654.5069 | 1.40937 | 658.7778 | 1.41078 | 663.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.41078 | 663.0625 | 1.41218 | 667.3611 | 1.41358 | 671.6736 |
| 1/32 | 1.41082 | 663.1966 | 1.41222 | 667.4957 | 1.41362 | 671.8086 |
| 1/16 | 1.41087 | 663.3308 | 1.41227 | 667.6302 | 1.41367 | 671.9436 |
| 3/32 | 1.41091 | 663.4649 | 1.41231 | 667.7648 | 1.41371 | 672.0786 |
| 1/8 | 1.41095 | 663.5991 | 1.41236 | 667.8994 | 1.41375 | 672.2137 |
| 5/32 | 1.41100 | 663.7332 | 1.41240 | 668.0340 | 1.41380 | 672.3487 |
| 3/16 | 1.41104 | 663.8674 | 1.41244 | 668.1686 | 1.41384 | 672.4838 |
| 7/32 | 1.41108 | 664.0016 | 1.41249 | 668.3033 | 1.41388 | 672.6188 |
| 1/4 | 1.41113 | 664.1359 | 1.41253 | 668.4379 | 1.41393 | 672.7539 |
| 9/32 | 1.41117 | 664.2701 | 1.41257 | 668.5726 | 1.41397 | 672.8890 |
| 5/16 | 1.41122 | 664.4043 | 1.41262 | 668.7073 | 1.41402 | 673.0241 |
| 11/32 | 1.41126 | 664.5386 | 1.41266 | 668.8420 | 1.41406 | 673.1592 |
| 3/8 | 1.41130 | 664.6729 | 1.41271 | 668.9767 | 1.41410 | 673.2944 |
| 13/32 | 1.41135 | 664.8071 | 1.41275 | 669.1114 | 1.41415 | 673.4295 |
| 7/16 | 1.41139 | 664.9414 | 1.41279 | 669.2461 | 1.41419 | 673.5647 |
| 15/32 | 1.41144 | 665.0757 | 1.41284 | 669.3809 | 1.41423 | 673.6999 |
| 1/2 | 1.41148 | 665.2101 | 1.41288 | 669.5156 | 1.41428 | 673.8351 |
| 17/32 | 1.41152 | 665.3444 | 1.41292 | 669.6504 | 1.41432 | 673.9703 |
| 9/16 | 1.41157 | 665.4788 | 1.41297 | 669.7852 | 1.41436 | 674.1055 |
| 19/32 | 1.41161 | 665.6131 | 1.41301 | 669.9200 | 1.41441 | 674.2407 |
| 5/8 | 1.41165 | 665.7475 | 1.41306 | 670.0548 | 1.41445 | 674.3760 |
| 21/32 | 1.41170 | 665.8819 | 1.41310 | 670.1896 | 1.41449 | 674.5112 |
| 11/16 | 1.41174 | 666.0163 | 1.41314 | 670.3245 | 1.41454 | 674.6465 |
| 23/32 | 1.41179 | 666.1507 | 1.41319 | 670.4593 | 1.41458 | 674.7818 |
| 3/4 | 1.41183 | 666.2852 | 1.41323 | 670.5942 | 1.41463 | 674.9171 |
| 25/32 | 1.41187 | 666.4196 | 1.41327 | 670.7291 | 1.41467 | 675.0524 |
| 13/16 | 1.41192 | 666.5541 | 1.41332 | 670.8640 | 1.41471 | 675.1877 |
| 27/32 | 1.41196 | 666.6885 | 1.41336 | 670.9989 | 1.41476 | 675.3231 |
| 7/8 | 1.41201 | 666.8230 | 1.41340 | 671.1338 | 1.41480 | 675.4584 |
| 29/32 | 1.41205 | 666.9575 | 1.41345 | 671.2687 | 1.41484 | 675.5938 |
| 15/16 | 1.41209 | 667.0920 | 1.41349 | 671.4037 | 1.41489 | 675.7292 |
| 31/32 | 1.41214 | 667.2266 | 1.41354 | 671.5386 | 1.41493 | 675.8646 |
| 1 | 1.41218 | 667.3611 | 1.41358 | 671.6736 | 1.41497 | 676.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.41497 | 676.0000 | 1.41636 | 680.3403 | 1.41775 | 684.6944 |
| 1/32 | 1.41502 | 676.1354 | 1.41641 | 680.4761 | 1.41779 | 684.8307 |
| 1/16 | 1.41506 | 676.2709 | 1.41645 | 680.6120 | 1.41783 | 684.9670 |
| 3/32 | 1.41510 | 676.4063 | 1.41649 | 680.7479 | 1.41788 | 685.1034 |
| 1/8 | 1.41515 | 676.5418 | 1.41654 | 680.8838 | 1.41792 | 685.2397 |
| 5/32 | 1.41519 | 676.6773 | 1.41658 | 681.0197 | 1.41796 | 685.3760 |
| 3/16 | 1.41523 | 676.8127 | 1.41662 | 681.1556 | 1.41801 | 685.5124 |
| 7/32 | 1.41528 | 676.9482 | 1.41667 | 681.2916 | 1.41805 | 685.6488 |
| 1/4 | 1.41532 | 677.0838 | 1.41671 | 681.4275 | 1.41809 | 685.7852 |
| 9/32 | 1.41536 | 677.2193 | 1.41675 | 681.5635 | 1.41814 | 685.9216 |
| 5/16 | 1.41541 | 677.3548 | 1.41680 | 681.6995 | 1.41818 | 686.0580 |
| 11/32 | 1.41545 | 677.4904 | 1.41684 | 681.8355 | 1.41822 | 686.1944 |
| 3/8 | 1.41550 | 677.6260 | 1.41688 | 681.9715 | 1.41827 | 686.3308 |
| 13/32 | 1.41554 | 677.7616 | 1.41693 | 682.1075 | 1.41831 | 686.4673 |
| 7/16 | 1.41558 | 677.8972 | 1.41697 | 682.2435 | 1.41835 | 686.6038 |
| 15/32 | 1.41563 | 678.0328 | 1.41701 | 682.3796 | 1.41840 | 686.7402 |
| 1/2 | 1.41567 | 678.1684 | 1.41706 | 682.5156 | 1.41844 | 686.8767 |
| 17/32 | 1.41571 | 678.3040 | 1.41710 | 682.6517 | 1.41848 | 687.0132 |
| 9/16 | 1.41576 | 678.4397 | 1.41714 | 682.7878 | 1.41853 | 687.1498 |
| 19/32 | 1.41580 | 678.5754 | 1.41719 | 682.9239 | 1.41857 | 687.2863 |
| 5/8 | 1.41584 | 678.7110 | 1.41723 | 683.0600 | 1.41861 | 687.4229 |
| 21/32 | 1.41589 | 678.8467 | 1.41727 | 683.1961 | 1.41866 | 687.5594 |
| 11/16 | 1.41593 | 678.9824 | 1.41732 | 683.3323 | 1.41870 | 687.6960 |
| 23/32 | 1.41597 | 679.1182 | 1.41736 | 683.4684 | 1.41874 | 687.8326 |
| 3/4 | 1.41602 | 679.2539 | 1.41740 | 683.6046 | 1.41878 | 687.9692 |
| 25/32 | 1.41606 | 679.3897 | 1.41745 | 683.7408 | 1.41883 | 688.1058 |
| 13/16 | 1.41610 | 679.5254 | 1.41749 | 683.8770 | 1.41887 | 688.2424 |
| 27/32 | 1.41615 | 679.6612 | 1.41753 | 684.0132 | 1.41891 | 688.3791 |
| 7/8 | 1.41619 | 679.7970 | 1.41758 | 684.1494 | 1.41896 | 688.5157 |
| 29/32 | 1.41623 | 679.9328 | 1.41762 | 684.2857 | 1.41900 | 688.6524 |
| 15/16 | 1.41628 | 680.0686 | 1.41766 | 684.4219 | 1.41904 | 688.7891 |
| 31/32 | 1.41632 | 680.2044 | 1.41771 | 684.5582 | 1.41909 | 688.9258 |
| 1 | 1.41636 | 680.3403 | 1.41775 | 684.6944 | 1.41913 | 689.0625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.41913 | 689.0625 | 1.42051 | 693.4444 | 1.42188 | 697.8403 |
| 1/32 | 1.41917 | 689.1992 | 1.42055 | 693.5816 | 1.42192 | 697.9779 |
| 1/16 | 1.41922 | 689.3360 | 1.42059 | 693.7188 | 1.42196 | 698.1155 |
| 3/32 | 1.41926 | 689.4727 | 1.42063 | 693.8560 | 1.42201 | 698.2531 |
| 1/8 | 1.41930 | 689.6095 | 1.42068 | 693.9932 | 1.42205 | 698.3907 |
| 5/32 | 1.41934 | 689.7463 | 1.42072 | 694.1304 | 1.42209 | 698.5284 |
| 3/16 | 1.41939 | 689.8831 | 1.42076 | 694.2676 | 1.42213 | 698.6660 |
| 7/32 | 1.41943 | 690.0199 | 1.42081 | 694.4048 | 1.42218 | 698.8037 |
| 1/4 | 1.41947 | 690.1567 | 1.42085 | 694.5421 | 1.42222 | 698.9414 |
| 9/32 | 1.41952 | 690.2935 | 1.42089 | 694.6794 | 1.42226 | 699.0791 |
| 5/16 | 1.41956 | 690.4304 | 1.42094 | 694.8167 | 1.42231 | 699.2168 |
| 11/32 | 1.41960 | 690.5672 | 1.42098 | 694.9539 | 1.42235 | 699.3546 |
| 3/8 | 1.41965 | 690.7041 | 1.42102 | 695.0913 | 1.42239 | 699.4923 |
| 13/32 | 1.41969 | 690.8410 | 1.42106 | 695.2286 | 1.42243 | 699.6301 |
| 7/16 | 1.41973 | 690.9779 | 1.42111 | 695.3659 | 1.42248 | 699.7678 |
| 15/32 | 1.41978 | 691.1148 | 1.42115 | 695.5033 | 1.42252 | 699.9056 |
| 1/2 | 1.41982 | 691.2517 | 1.42119 | 695.6406 | 1.42256 | 700.0434 |
| 17/32 | 1.41986 | 691.3887 | 1.42124 | 695.7780 | 1.42261 | 700.1812 |
| 9/16 | 1.41990 | 691.5256 | 1.42128 | 695.9154 | 1.42265 | 700.3190 |
| 19/32 | 1.41995 | 691.6626 | 1.42132 | 696.0528 | 1.42269 | 700.4569 |
| 5/8 | 1.41999 | 691.7996 | 1.42136 | 696.1902 | 1.42273 | 700.5947 |
| 21/32 | 1.42003 | 691.9366 | 1.42141 | 696.3276 | 1.42278 | 700.7326 |
| 11/16 | 1.42008 | 692.0736 | 1.42145 | 696.4651 | 1.42282 | 700.8705 |
| 23/32 | 1.42012 | 692.2106 | 1.42149 | 696.6025 | 1.42286 | 701.0084 |
| 3/4 | 1.42016 | 692.3477 | 1.42154 | 696.7400 | 1.42290 | 701.1463 |
| 25/32 | 1.42021 | 692.4847 | 1.42158 | 696.8775 | 1.42295 | 701.2842 |
| 13/16 | 1.42025 | 692.6218 | 1.42162 | 697.0150 | 1.42299 | 701.4221 |
| 27/32 | 1.42029 | 692.7589 | 1.42166 | 697.1525 | 1.42303 | 701.5601 |
| 7/8 | 1.42033 | 692.8959 | 1.42171 | 697.2900 | 1.42308 | 701.6980 |
| 29/32 | 1.42038 | 693.0330 | 1.42175 | 697.4276 | 1.42312 | 701.8360 |
| 15/16 | 1.42042 | 693.1702 | 1.42179 | 697.5651 | 1.42316 | 701.9740 |
| 31/32 | 1.42046 | 693.3073 | 1.42184 | 697.7027 | 1.42320 | 702.1120 |
| 1 | 1.42051 | 693.4444 | 1.42188 | 697.8403 | 1.42325 | 702.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.42325 | 702.2500 | 1.42461 | 706.6736 | 1.42597 | 711.1111 |
| 1/32 | 1.42329 | 702.3880 | 1.42465 | 706.8121 | 1.42601 | 711.2500 |
| 1/16 | 1.42333 | 702.5261 | 1.42469 | 706.9505 | 1.42605 | 711.3889 |
| 3/32 | 1.42337 | 702.6641 | 1.42474 | 707.0890 | 1.42610 | 711.5278 |
| 1/8 | 1.42342 | 702.8022 | 1.42478 | 707.2275 | 1.42614 | 711.6668 |
| 5/32 | 1.42346 | 702.9403 | 1.42482 | 707.3661 | 1.42618 | 711.8057 |
| 3/16 | 1.42350 | 703.0784 | 1.42486 | 707.5046 | 1.42622 | 711.9447 |
| 7/32 | 1.42354 | 703.2165 | 1.42491 | 707.6431 | 1.42627 | 712.0837 |
| 1/4 | 1.42359 | 703.3546 | 1.42495 | 707.7817 | 1.42631 | 712.2227 |
| 9/32 | 1.42363 | 703.4927 | 1.42499 | 707.9203 | 1.42635 | 712.3617 |
| 5/16 | 1.42367 | 703.6309 | 1.42503 | 708.0588 | 1.42639 | 712.5007 |
| 11/32 | 1.42372 | 703.7690 | 1.42508 | 708.1974 | 1.42644 | 712.6397 |
| 3/8 | 1.42376 | 703.9072 | 1.42512 | 708.3360 | 1.42648 | 712.7788 |
| 13/32 | 1.42380 | 704.0454 | 1.42516 | 708.4747 | 1.42652 | 712.9178 |
| 7/16 | 1.42384 | 704.1836 | 1.42520 | 708.6133 | 1.42656 | 713.0569 |
| 15/32 | 1.42389 | 704.3218 | 1.42525 | 708.7520 | 1.42660 | 713.1960 |
| 1/2 | 1.42393 | 704.4601 | 1.42529 | 708.8906 | 1.42665 | 713.3351 |
| 17/32 | 1.42397 | 704.5983 | 1.42533 | 709.0293 | 1.42669 | 713.4742 |
| 9/16 | 1.42401 | 704.7366 | 1.42537 | 709.1680 | 1.42673 | 713.6133 |
| 19/32 | 1.42406 | 704.8748 | 1.42542 | 709.3067 | 1.42677 | 713.7524 |
| 5/8 | 1.42410 | 705.0131 | 1.42546 | 709.4454 | 1.42682 | 713.8916 |
| 21/32 | 1.42414 | 705.1514 | 1.42550 | 709.5842 | 1.42686 | 714.0308 |
| 11/16 | 1.42418 | 705.2897 | 1.42554 | 709.7229 | 1.42690 | 714.1699 |
| 23/32 | 1.42423 | 705.4281 | 1.42559 | 709.8617 | 1.42694 | 714.3091 |
| 3/4 | 1.42427 | 705.5664 | 1.42563 | 710.0004 | 1.42699 | 714.4484 |
| 25/32 | 1.42431 | 705.7048 | 1.42567 | 710.1392 | 1.42703 | 714.5876 |
| 13/16 | 1.42435 | 705.8431 | 1.42571 | 710.2780 | 1.42707 | 714.7268 |
| 27/32 | 1.42440 | 705.9815 | 1.42576 | 710.4168 | 1.42711 | 714.8661 |
| 7/8 | 1.42444 | 706.1199 | 1.42580 | 710.5557 | 1.42715 | 715.0053 |
| 29/32 | 1.42448 | 706.2583 | 1.42584 | 710.6945 | 1.42720 | 715.1446 |
| 15/16 | 1.42452 | 706.3967 | 1.42588 | 710.8334 | 1.42724 | 715.2839 |
| 31/32 | 1.42457 | 706.5352 | 1.42593 | 710.9722 | 1.42728 | 715.4232 |
| 1 | 1.42461 | 706.6736 | 1.42597 | 711.1111 | 1.42732 | 715.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.42732 | 715.5625 | 1.42867 | 720.0278 | 1.43002 | 724.5069 |
| 1/32 | 1.42737 | 715.7018 | 1.42872 | 720.1675 | 1.43006 | 724.6471 |
| 1/16 | 1.42741 | 715.8412 | 1.42876 | 720.3073 | 1.43011 | 724.7874 |
| 3/32 | 1.42745 | 715.9805 | 1.42880 | 720.4471 | 1.43015 | 724.9276 |
| 1/8 | 1.42749 | 716.1199 | 1.42884 | 720.5869 | 1.43019 | 725.0678 |
| 5/32 | 1.42754 | 716.2593 | 1.42889 | 720.7267 | 1.43023 | 725.2081 |
| 3/16 | 1.42758 | 716.3987 | 1.42893 | 720.8666 | 1.43027 | 725.3483 |
| 7/32 | 1.42762 | 716.5381 | 1.42897 | 721.0064 | 1.43032 | 725.4886 |
| 1/4 | 1.42766 | 716.6775 | 1.42901 | 721.1463 | 1.43036 | 725.6289 |
| 9/32 | 1.42770 | 716.8170 | 1.42905 | 721.2861 | 1.43040 | 725.7692 |
| 5/16 | 1.42775 | 716.9564 | 1.42910 | 721.4260 | 1.43044 | 725.9095 |
| 11/32 | 1.42779 | 717.0959 | 1.42914 | 721.5659 | 1.43048 | 726.0499 |
| 3/8 | 1.42783 | 717.2354 | 1.42918 | 721.7058 | 1.43053 | 726.1902 |
| 13/32 | 1.42787 | 717.3748 | 1.42922 | 721.8458 | 1.43057 | 726.3306 |
| 7/16 | 1.42792 | 717.5144 | 1.42926 | 721.9857 | 1.43061 | 726.4709 |
| 15/32 | 1.42796 | 717.6539 | 1.42931 | 722.1257 | 1.43065 | 726.6113 |
| 1/2 | 1.42800 | 717.7934 | 1.42935 | 722.2656 | 1.43069 | 726.7517 |
| 17/32 | 1.42804 | 717.9329 | 1.42939 | 722.4056 | 1.43074 | 726.8922 |
| 9/16 | 1.42808 | 718.0725 | 1.42943 | 722.5456 | 1.43078 | 727.0326 |
| 19/32 | 1.42813 | 718.2121 | 1.42947 | 722.6856 | 1.43082 | 727.1730 |
| 5/8 | 1.42817 | 718.3517 | 1.42952 | 722.8256 | 1.43086 | 727.3135 |
| 21/32 | 1.42821 | 718.4913 | 1.42956 | 722.9657 | 1.43090 | 727.4539 |
| 11/16 | 1.42825 | 718.6309 | 1.42960 | 723.1057 | 1.43094 | 727.5944 |
| 23/32 | 1.42830 | 718.7705 | 1.42964 | 723.2458 | 1.43099 | 727.7349 |
| 3/4 | 1.42834 | 718.9102 | 1.42969 | 723.3859 | 1.43103 | 727.8754 |
| 25/32 | 1.42838 | 719.0498 | 1.42973 | 723.5259 | 1.43107 | 728.0160 |
| 13/16 | 1.42842 | 719.1895 | 1.42977 | 723.6660 | 1.43111 | 728.1565 |
| 27/32 | 1.42846 | 719.3292 | 1.42981 | 723.8062 | 1.43115 | 728.2970 |
| 7/8 | 1.42851 | 719.4689 | 1.42985 | 723.9463 | 1.43120 | 728.4376 |
| 29/32 | 1.42855 | 719.6086 | 1.42990 | 724.0864 | 1.43124 | 728.5782 |
| 15/16 | 1.42859 | 719.7483 | 1.42994 | 724.2266 | 1.43128 | 728.7188 |
| 31/32 | 1.42863 | 719.8880 | 1.42998 | 724.3668 | 1.43132 | 728.8594 |
| 1 | 1.42867 | 720.0278 | 1.43002 | 724.5069 | 1.43136 | 729.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.43136 | 729.0000 | 1.43270 | 733.5069 | 1.43404 | 738.0278 |
| 1/32 | 1.43141 | 729.1406 | 1.43274 | 733.6480 | 1.43408 | 738.1693 |
| 1/16 | 1.43145 | 729.2813 | 1.43279 | 733.7891 | 1.43412 | 738.3108 |
| 3/32 | 1.43149 | 729.4219 | 1.43283 | 733.9302 | 1.43416 | 738.4523 |
| 1/8 | 1.43153 | 729.5626 | 1.43287 | 734.0713 | 1.43420 | 738.5939 |
| 5/32 | 1.43157 | 729.7033 | 1.43291 | 734.2124 | 1.43424 | 738.7354 |
| 3/16 | 1.43162 | 729.8440 | 1.43295 | 734.3535 | 1.43429 | 738.8770 |
| 7/32 | 1.43166 | 729.9847 | 1.43299 | 734.4947 | 1.43433 | 739.0186 |
| 1/4 | 1.43170 | 730.1254 | 1.43304 | 734.6359 | 1.43437 | 739.1602 |
| 9/32 | 1.43174 | 730.2662 | 1.43308 | 734.7770 | 1.43441 | 739.3018 |
| 5/16 | 1.43178 | 730.4069 | 1.43312 | 734.9182 | 1.43445 | 739.4434 |
| 11/32 | 1.43182 | 730.5477 | 1.43316 | 735.0594 | 1.43449 | 739.5850 |
| 3/8 | 1.43187 | 730.6885 | 1.43320 | 735.2006 | 1.43454 | 739.7267 |
| 13/32 | 1.43191 | 730.8293 | 1.43324 | 735.3419 | 1.43458 | 739.8683 |
| 7/16 | 1.43195 | 730.9701 | 1.43329 | 735.4831 | 1.43462 | 740.0100 |
| 15/32 | 1.43199 | 731.1109 | 1.43333 | 735.6244 | 1.43466 | 740.1517 |
| 1/2 | 1.43203 | 731.2517 | 1.43337 | 735.7656 | 1.43470 | 740.2934 |
| 17/32 | 1.43208 | 731.3926 | 1.43341 | 735.9069 | 1.43474 | 740.4351 |
| 9/16 | 1.43212 | 731.5334 | 1.43345 | 736.0482 | 1.43479 | 740.5769 |
| 19/32 | 1.43216 | 731.6743 | 1.43349 | 736.1895 | 1.43483 | 740.7186 |
| 5/8 | 1.43220 | 731.8152 | 1.43354 | 736.3308 | 1.43487 | 740.8604 |
| 21/32 | 1.43224 | 731.9561 | 1.43358 | 736.4722 | 1.43491 | 741.0021 |
| 11/16 | 1.43228 | 732.0970 | 1.43362 | 736.6135 | 1.43495 | 741.1439 |
| 23/32 | 1.43233 | 732.2380 | 1.43366 | 736.7549 | 1.43499 | 741.2857 |
| 3/4 | 1.43237 | 732.3789 | 1.43370 | 736.8963 | 1.43503 | 741.4275 |
| 25/32 | 1.43241 | 732.5199 | 1.43374 | 737.0377 | 1.43508 | 741.5693 |
| 13/16 | 1.43245 | 732.6608 | 1.43379 | 737.1791 | 1.43512 | 741.7112 |
| 27/32 | 1.43249 | 732.8018 | 1.43383 | 737.3205 | 1.43516 | 741.8530 |
| 7/8 | 1.43254 | 732.9428 | 1.43387 | 737.4619 | 1.43520 | 741.9949 |
| 29/32 | 1.43258 | 733.0838 | 1.43391 | 737.6034 | 1.43524 | 742.1368 |
| 15/16 | 1.43262 | 733.2249 | 1.43395 | 737.7448 | 1.43528 | 742.2787 |
| 31/32 | 1.43266 | 733.3659 | 1.43399 | 737.8863 | 1.43533 | 742.4206 |
| 1 | 1.43270 | 733.5069 | 1.43404 | 738.0278 | 1.43537 | 742.5625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.43537 | 742.5625 | 1.43669 | 747.1111 | 1.43801 | 751.6736 |
| 1/32 | 1.43541 | 742.7044 | 1.43673 | 747.2535 | 1.43806 | 751.8164 |
| 1/16 | 1.43545 | 742.8464 | 1.43678 | 747.3959 | 1.43810 | 751.9592 |
| 3/32 | 1.43549 | 742.9883 | 1.43682 | 747.5383 | 1.43814 | 752.1021 |
| 1/8 | 1.43553 | 743.1303 | 1.43686 | 747.6807 | 1.43818 | 752.2449 |
| 5/32 | 1.43557 | 743.2723 | 1.43690 | 747.8231 | 1.43822 | 752.3878 |
| 3/16 | 1.43562 | 743.4143 | 1.43694 | 747.9655 | 1.43826 | 752.5306 |
| 7/32 | 1.43566 | 743.5563 | 1.43698 | 748.1080 | 1.43830 | 752.6735 |
| 1/4 | 1.43570 | 743.6984 | 1.43702 | 748.2504 | 1.43834 | 752.8164 |
| 9/32 | 1.43574 | 743.8404 | 1.43706 | 748.3929 | 1.43839 | 752.9593 |
| 5/16 | 1.43578 | 743.9824 | 1.43711 | 748.5354 | 1.43843 | 753.1022 |
| 11/32 | 1.43582 | 744.1245 | 1.43715 | 748.6779 | 1.43847 | 753.2452 |
| 3/8 | 1.43586 | 744.2666 | 1.43719 | 748.8204 | 1.43851 | 753.3881 |
| 13/32 | 1.43591 | 744.4087 | 1.43723 | 748.9630 | 1.43855 | 753.5311 |
| 7/16 | 1.43595 | 744.5508 | 1.43727 | 749.1055 | 1.43859 | 753.6741 |
| 15/32 | 1.43599 | 744.6929 | 1.43731 | 749.2481 | 1.43863 | 753.8171 |
| 1/2 | 1.43603 | 744.8351 | 1.43735 | 749.3906 | 1.43867 | 753.9601 |
| 17/32 | 1.43607 | 744.9772 | 1.43740 | 749.5332 | 1.43872 | 754.1031 |
| 9/16 | 1.43611 | 745.1194 | 1.43744 | 749.6758 | 1.43876 | 754.2461 |
| 19/32 | 1.43615 | 745.2616 | 1.43748 | 749.8184 | 1.43880 | 754.3892 |
| 5/8 | 1.43620 | 745.4038 | 1.43752 | 749.9610 | 1.43884 | 754.5322 |
| 21/32 | 1.43624 | 745.5460 | 1.43756 | 750.1037 | 1.43888 | 754.6753 |
| 11/16 | 1.43628 | 745.6882 | 1.43760 | 750.2463 | 1.43892 | 754.8184 |
| 23/32 | 1.43632 | 745.8304 | 1.43764 | 750.3890 | 1.43896 | 754.9615 |
| 3/4 | 1.43636 | 745.9727 | 1.43768 | 750.5317 | 1.43900 | 755.1046 |
| 25/32 | 1.43640 | 746.1149 | 1.43773 | 750.6744 | 1.43904 | 755.2477 |
| 13/16 | 1.43644 | 746.2572 | 1.43777 | 750.8171 | 1.43909 | 755.3909 |
| 27/32 | 1.43649 | 746.3995 | 1.43781 | 750.9598 | 1.43913 | 755.5340 |
| 7/8 | 1.43653 | 746.5418 | 1.43785 | 751.1025 | 1.43917 | 755.6772 |
| 29/32 | 1.43657 | 746.6841 | 1.43789 | 751.2453 | 1.43921 | 755.8204 |
| 15/16 | 1.43661 | 746.8264 | 1.43793 | 751.3880 | 1.43925 | 755.9636 |
| 31/32 | 1.43665 | 746.9688 | 1.43797 | 751.5308 | 1.43929 | 756.1068 |
| 1 | 1.43669 | 747.1111 | 1.43801 | 751.6736 | 1.43933 | 756.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.43933 | 756.2500 | 1.44065 | 760.8403 | 1.44196 | 765.4444 |
| 1/32 | 1.43937 | 756.3932 | 1.44069 | 760.9839 | 1.44200 | 765.5885 |
| 1/16 | 1.43941 | 756.5365 | 1.44073 | 761.1276 | 1.44204 | 765.7327 |
| 3/32 | 1.43946 | 756.6797 | 1.44077 | 761.2713 | 1.44208 | 765.8768 |
| 1/8 | 1.43950 | 756.8230 | 1.44081 | 761.4150 | 1.44212 | 766.0209 |
| 5/32 | 1.43954 | 756.9663 | 1.44085 | 761.5588 | 1.44216 | 766.1651 |
| 3/16 | 1.43958 | 757.1096 | 1.44089 | 761.7025 | 1.44220 | 766.3093 |
| 7/32 | 1.43962 | 757.2529 | 1.44093 | 761.8463 | 1.44224 | 766.4535 |
| 1/4 | 1.43966 | 757.3963 | 1.44097 | 761.9900 | 1.44228 | 766.5977 |
| 9/32 | 1.43970 | 757.5396 | 1.44102 | 762.1338 | 1.44232 | 766.7419 |
| 5/16 | 1.43974 | 757.6830 | 1.44106 | 762.2776 | 1.44237 | 766.8861 |
| 11/32 | 1.43978 | 757.8263 | 1.44110 | 762.4214 | 1.44241 | 767.0303 |
| 3/8 | 1.43983 | 757.9697 | 1.44114 | 762.5652 | 1.44245 | 767.1746 |
| 13/32 | 1.43987 | 758.1131 | 1.44118 | 762.7090 | 1.44249 | 767.3189 |
| 7/16 | 1.43991 | 758.2565 | 1.44122 | 762.8529 | 1.44253 | 767.4631 |
| 15/32 | 1.43995 | 758.4000 | 1.44126 | 762.9968 | 1.44257 | 767.6074 |
| 1/2 | 1.43999 | 758.5434 | 1.44130 | 763.1406 | 1.44261 | 767.7517 |
| 17/32 | 1.44003 | 758.6869 | 1.44134 | 763.2845 | 1.44265 | 767.8961 |
| 9/16 | 1.44007 | 758.8303 | 1.44138 | 763.4284 | 1.44269 | 768.0404 |
| 19/32 | 1.44011 | 758.9738 | 1.44143 | 763.5723 | 1.44273 | 768.1847 |
| 5/8 | 1.44015 | 759.1173 | 1.44147 | 763.7163 | 1.44277 | 768.3291 |
| 21/32 | 1.44020 | 759.2608 | 1.44151 | 763.8602 | 1.44281 | 768.4735 |
| 11/16 | 1.44024 | 759.4043 | 1.44155 | 764.0042 | 1.44286 | 768.6179 |
| 23/32 | 1.44028 | 759.5479 | 1.44159 | 764.1481 | 1.44290 | 768.7623 |
| 3/4 | 1.44032 | 759.6914 | 1.44163 | 764.2921 | 1.44294 | 768.9067 |
| 25/32 | 1.44036 | 759.8350 | 1.44167 | 764.4361 | 1.44298 | 769.0511 |
| 13/16 | 1.44040 | 759.9785 | 1.44171 | 764.5801 | 1.44302 | 769.1956 |
| 27/32 | 1.44044 | 760.1221 | 1.44175 | 764.7241 | 1.44306 | 769.3400 |
| 7/8 | 1.44048 | 760.2657 | 1.44179 | 764.8682 | 1.44310 | 769.4845 |
| 29/32 | 1.44052 | 760.4093 | 1.44183 | 765.0122 | 1.44314 | 769.6290 |
| 15/16 | 1.44056 | 760.5530 | 1.44188 | 765.1563 | 1.44318 | 769.7735 |
| 31/32 | 1.44061 | 760.6966 | 1.44192 | 765.3004 | 1.44322 | 769.9180 |
| 1 | 1.44065 | 760.8403 | 1.44196 | 765.4444 | 1.44326 | 770.0625 |

| Fractions of an inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.44326 | 770.0625 | 1.44457 | 774.6944 | 1.44586 | 779.3403 |
| 1/32 | 1.44330 | 770.2070 | 1.44461 | 774.8394 | 1.44590 | 779.4857 |
| 1/16 | 1.44334 | 770.3516 | 1.44465 | 774.9844 | 1.44594 | 779.6311 |
| 3/32 | 1.44339 | 770.4962 | 1.44469 | 775.1294 | 1.44599 | 779.7765 |
| 1/8 | 1.44343 | 770.6407 | 1.44473 | 775.2744 | 1.44603 | 779.9220 |
| 5/32 | 1.44347 | 770.7853 | 1.44477 | 775.4194 | 1.44607 | 780.0674 |
| 3/16 | 1.44351 | 770.9299 | 1.44481 | 775.5645 | 1.44611 | 780.2129 |
| 7/32 | 1.44355 | 771.0746 | 1.44485 | 775.7095 | 1.44615 | 780.3584 |
| 1/4 | 1.44359 | 771.2192 | 1.44489 | 775.8546 | 1.44619 | 780.5039 |
| 9/32 | 1.44363 | 771.3638 | 1.44493 | 775.9997 | 1.44623 | 780.6494 |
| 5/16 | 1.44367 | 771.5085 | 1.44497 | 776.1448 | 1.44627 | 780.7949 |
| 11/32 | 1.44371 | 771.6532 | 1.44501 | 776.2899 | 1.44631 | 780.9405 |
| 3/8 | 1.44375 | 771.7979 | 1.44505 | 776.4350 | 1.44635 | 781.0860 |
| 13/32 | 1.44379 | 771.9426 | 1.44509 | 776.5801 | 1.44639 | 781.2316 |
| 7/16 | 1.44383 | 772.0873 | 1.44513 | 776.7253 | 1.44643 | 781.3772 |
| 15/32 | 1.44387 | 772.2320 | 1.44517 | 776.8704 | 1.44647 | 781.5228 |
| 1/2 | 1.44391 | 772.3767 | 1.44521 | 777.0156 | 1.44651 | 781.6684 |
| 17/32 | 1.44396 | 772.5215 | 1.44526 | 777.1608 | 1.44655 | 781.8140 |
| 9/16 | 1.44400 | 772.6663 | 1.44530 | 777.3060 | 1.44659 | 781.9597 |
| 19/32 | 1.44404 | 772.8110 | 1.44534 | 777.4512 | 1.44663 | 782.1053 |
| 5/8 | 1.44408 | 772.9558 | 1.44538 | 777.5965 | 1.44667 | 782.2510 |
| 21/32 | 1.44412 | 773.1006 | 1.44542 | 777.7417 | 1.44671 | 782.3967 |
| 11/16 | 1.44416 | 773.2455 | 1.44546 | 777.8870 | 1.44675 | 782.5423 |
| 23/32 | 1.44420 | 773.3903 | 1.44550 | 778.0322 | 1.44679 | 782.6880 |
| 3/4 | 1.44424 | 773.5352 | 1.44554 | 778.1775 | 1.44683 | 782.8338 |
| 25/32 | 1.44428 | 773.6800 | 1.44558 | 778.3228 | 1.44688 | 782.9795 |
| 13/16 | 1.44432 | 773.8249 | 1.44562 | 778.4681 | 1.44692 | 783.1252 |
| 27/32 | 1.44436 | 773.9698 | 1.44566 | 778.6135 | 1.44696 | 783.2710 |
| 7/8 | 1.44440 | 774.1147 | 1.44570 | 778.7588 | 1.44700 | 783.4168 |
| 29/32 | 1.44444 | 774.2596 | 1.44574 | 778.9041 | 1.44704 | 783.5626 |
| 15/16 | 1.44448 | 774.4045 | 1.44578 | 779.0495 | 1.44708 | 783.7084 |
| 31/32 | 1.44452 | 774.5495 | 1.44582 | 779.1949 | 1.44712 | 783.8542 |
| 1 | 1.44457 | 774.6944 | 1.44586 | 779.3403 | 1.44716 | 784.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.44716 | 784.0000 | 1.44845 | 788.6736 | 1.44974 | 793.3611 |
| 1/32 | 1.44720 | 784.1458 | 1.44849 | 788.8199 | 1.44978 | 793.5078 |
| 1/16 | 1.44724 | 784.2917 | 1.44853 | 788.9662 | 1.44982 | 793.6545 |
| 3/32 | 1.44728 | 784.4376 | 1.44857 | 789.1125 | 1.44986 | 793.8013 |
| 1/8 | 1.44732 | 784.5834 | 1.44861 | 789.2588 | 1.44990 | 793.9480 |
| 5/32 | 1.44736 | 784.7293 | 1.44865 | 789.4051 | 1.44994 | 794.0948 |
| 3/16 | 1.44740 | 784.8752 | 1.44869 | 789.5515 | 1.44998 | 794.2416 |
| 7/32 | 1.44744 | 785.0212 | 1.44873 | 789.6978 | 1.45002 | 794.3884 |
| 1/4 | 1.44748 | 785.1671 | 1.44877 | 789.8442 | 1.45006 | 794.5352 |
| 9/32 | 1.44752 | 785.3130 | 1.44881 | 789.9906 | 1.45010 | 794.6820 |
| 5/16 | 1.44756 | 785.4590 | 1.44885 | 790.1370 | 1.45014 | 794.8288 |
| 11/32 | 1.44760 | 785.6050 | 1.44889 | 790.2834 | 1.45018 | 794.9756 |
| 3/8 | 1.44764 | 785.7510 | 1.44893 | 790.4298 | 1.45022 | 795.1225 |
| 13/32 | 1.44768 | 785.8970 | 1.44897 | 790.5762 | 1.45026 | 795.2694 |
| 7/16 | 1.44772 | 786.0430 | 1.44901 | 790.7227 | 1.45030 | 795.4163 |
| 15/32 | 1.44776 | 786.1890 | 1.44905 | 790.8691 | 1.45034 | 795.5632 |
| 1/2 | 1.44780 | 786.3351 | 1.44909 | 791.0156 | 1.45038 | 795.7101 |
| 17/32 | 1.44784 | 786.4811 | 1.44913 | 791.1621 | 1.45042 | 795.8570 |
| 9/16 | 1.44788 | 786.6272 | 1.44917 | 791.3086 | 1.45046 | 796.0039 |
| 19/32 | 1.44792 | 786.7733 | 1.44921 | 791.4551 | 1.45050 | 796.1509 |
| 5/8 | 1.44797 | 786.9194 | 1.44925 | 791.6017 | 1.45054 | 796.2979 |
| 21/32 | 1.44801 | 787.0655 | 1.44929 | 791.7482 | 1.45058 | 796.4448 |
| 11/16 | 1.44805 | 787.2116 | 1.44933 | 791.8948 | 1.45062 | 796.5918 |
| 23/32 | 1.44809 | 787.3578 | 1.44937 | 792.0413 | 1.45066 | 796.7388 |
| 3/4 | 1.44813 | 787.5039 | 1.44941 | 792.1879 | 1.45070 | 796.8859 |
| 25/32 | 1.44817 | 787.6501 | 1.44945 | 792.3345 | 1.45074 | 797.0329 |
| 13/16 | 1.44821 | 787.7963 | 1.44949 | 792.4811 | 1.45078 | 797.1799 |
| 27/32 | 1.44825 | 787.9424 | 1.44953 | 792.6278 | 1.45082 | 797.3270 |
| 7/8 | 1.44829 | 788.0886 | 1.44957 | 792.7744 | 1.45086 | 797.4741 |
| 29/32 | 1.44833 | 788.2349 | 1.44961 | 792.9211 | 1.45090 | 797.6212 |
| 15/16 | 1.44837 | 788.3811 | 1.44966 | 793.0677 | 1.45094 | 797.7683 |
| 31/32 | 1.44841 | 788.5274 | 1.44970 | 793.2144 | 1.45098 | 797.9154 |
| 1 | 1.44845 | 788.6736 | 1.44974 | 793.3611 | 1.45102 | 798.0625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.45102 | 798.0625 | 1.45230 | 802.7778 | 1.45357 | 807.5069 |
| 1/32 | 1.45106 | 798.2096 | 1.45234 | 802.9254 | 1.45361 | 807.6550 |
| 1/16 | 1.45110 | 798.3568 | 1.45238 | 803.0729 | 1.45365 | 807.8030 |
| 3/32 | 1.45114 | 798.5040 | 1.45242 | 803.2205 | 1.45369 | 807.9510 |
| 1/8 | 1.45118 | 798.6512 | 1.45246 | 803.3682 | 1.45373 | 808.0991 |
| 5/32 | 1.45122 | 798.7983 | 1.45250 | 803.5158 | 1.45377 | 808.2471 |
| 3/16 | 1.45126 | 798.9456 | 1.45254 | 803.6634 | 1.45381 | 808.3952 |
| 7/32 | 1.45130 | 799.0928 | 1.45258 | 803.8111 | 1.45385 | 808.5433 |
| 1/4 | 1.45134 | 799.2400 | 1.45262 | 803.9588 | 1.45389 | 808.6914 |
| 9/32 | 1.45138 | 799.3873 | 1.45266 | 804.1065 | 1.45393 | 808.8395 |
| 5/16 | 1.45142 | 799.5345 | 1.45270 | 804.2542 | 1.45397 | 808.9877 |
| 11/32 | 1.45146 | 799.6818 | 1.45274 | 804.4019 | 1.45401 | 809.1358 |
| 3/8 | 1.45150 | 799.8291 | 1.45278 | 804.5496 | 1.45405 | 809.2840 |
| 13/32 | 1.45154 | 799.9764 | 1.45282 | 804.6973 | 1.45409 | 809.4321 |
| 7/16 | 1.45158 | 800.1237 | 1.45286 | 804.8451 | 1.45413 | 809.5803 |
| 15/32 | 1.45162 | 800.2711 | 1.45290 | 804.9928 | 1.45417 | 809.7285 |
| 1/2 | 1.45166 | 800.4184 | 1.45294 | 805.1406 | 1.45421 | 809.8767 |
| 17/32 | 1.45170 | 800.5658 | 1.45298 | 805.2884 | 1.45425 | 810.0250 |
| 9/16 | 1.45174 | 800.7131 | 1.45302 | 805.4362 | 1.45429 | 810.1732 |
| 19/32 | 1.45178 | 800.8605 | 1.45306 | 805.5840 | 1.45433 | 810.3215 |
| 5/8 | 1.45182 | 801.0079 | 1.45310 | 805.7319 | 1.45437 | 810.4697 |
| 21/32 | 1.45186 | 801.1553 | 1.45314 | 805.8797 | 1.45441 | 810.6180 |
| 11/16 | 1.45190 | 801.3028 | 1.45317 | 806.0276 | 1.45445 | 810.7663 |
| 23/32 | 1.45194 | 801.4502 | 1.45321 | 806.1755 | 1.45449 | 810.9146 |
| 3/4 | 1.45198 | 801.5977 | 1.45325 | 806.3234 | 1.45453 | 811.0629 |
| 25/32 | 1.45202 | 801.7451 | 1.45329 | 806.4713 | 1.45457 | 811.2113 |
| 13/16 | 1.45206 | 801.8926 | 1.45333 | 806.6192 | 1.45461 | 811.3596 |
| 27/32 | 1.45210 | 802.0401 | 1.45337 | 806.7671 | 1.45465 | 811 5080 |
| 7/8 | 1.45214 | 802.1876 | 1.45341 | 806.9150 | 1.45469 | 811.6564 |
| 29/32 | 1.45218 | 802.3351 | 1.45345 | 807.0630 | 1.45473 | 811.8047 |
| 15/16 | 1.45222 | 802.4827 | 1.45349 | 807.2110 | 1.45477 | 811.9532 |
| 31/32 | 1.45226 | 802.6302 | 1.45353 | 807.3589 | 1.45481 | 812.1016 |
| 1 | 1.45230 | 802.7778 | 1.45357 | 807.5069 | 1.45484 | 812.2500 |

| Fractions of an Inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.45484 | 812.2500 | 1.45611 | 817.0069 | 1.45738 | 821.7778 |
| 1/32 | 1.45488 | 812.3984 | 1.45615 | 817.1558 | 1.45742 | 821.9271 |
| 1/16 | 1.45492 | 812.5469 | 1.45619 | 817.3047 | 1.45746 | 822.0764 |
| 3/32 | 1.45496 | 812.6954 | 1.45623 | 817.4536 | 1.45750 | 822.2258 |
| 1/8 | 1.45500 | 812.8439 | 1.45627 | 817.6025 | 1.45753 | 822.3751 |
| 5/32 | 1.45504 | 812.9924 | 1.45631 | 817.7515 | 1.45757 | 822.5245 |
| 3/16 | 1.45508 | 813.1409 | 1.45635 | 817.9004 | 1.45761 | 822.6739 |
| 7/32 | 1.45512 | 813.2894 | 1.45639 | 818.0494 | 1.45765 | 822.8232 |
| 1/4 | 1.45516 | 813.4379 | 1.45643 | 818.1984 | 1.45769 | 822.9727 |
| 9/32 | 1.45520 | 813.5865 | 1.45647 | 818.3473 | 1.45773 | 823.1221 |
| 5/16 | 1.45524 | 813.7351 | 1.45651 | 818.4963 | 1.45777 | 823.2715 |
| 11/32 | 1.45528 | 813.8836 | 1.45655 | 818.6454 | 1.45781 | 823.4210 |
| 3/8 | 1.45532 | 814.0322 | 1.45659 | 818.7944 | 1.45785 | 823.5704 |
| 13/32 | 1.45536 | 814.1808 | 1.45663 | 818.9434 | 1.45789 | 823.7199 |
| 7/16 | 1.45540 | 814.3295 | 1.45667 | 819.0925 | 1.45793 | 823.8694 |
| 15/32 | 1.45544 | 814.4781 | 1.45671 | 819.2415 | 1.45797 | 824.0189 |
| 1/2 | 1.45548 | 814.6267 | 1.45675 | 819.3906 | 1.45801 | 824.1684 |
| 17/32 | 1.45552 | 814.7754 | 1.45679 | 819.5397 | 1.45805 | 824.3179 |
| 9/16 | 1.45556 | 814.9241 | 1.45682 | 819.6888 | 1.45809 | 824.4675 |
| 19/32 | 1.45560 | 815.0728 | 1.45686 | 819.8380 | 1.45813 | 824.6170 |
| 5/8 | 1.45564 | 815.2215 | 1.45690 | 819.9871 | 1.45817 | 824.7666 |
| 21/32 | 1.45568 | 815.3702 | 1.45694 | 820.1362 | 1.45820 | 824.9162 |
| 11/16 | 1.45572 | 815.5189 | 1.45398 | 820.2854 | 1.45824 | 825.0658 |
| 23/32 | 1.45576 | 815.6677 | 1.45702 | 820.4346 | 1.45828 | 825.2154 |
| 3/4 | 1.45580 | 815.8164 | 1.45706 | 820.5838 | 1.45832 | 825.3650 |
| 25/32 | 1.45584 | 815.9652 | 1.45710 | 820.7330 | 1.45836 | 825.5147 |
| 13/16 | 1.45588 | 816.1140 | 1.45714 | 820.8822 | 1.45840 | 825.6643 |
| 27/32 | 1.45591 | 816.2628 | 1.45718 | 821.0314 | 1.45844 | 825.8140 |
| 7/8 | 1.45595 | 816.4116 | 1.45722 | 821.1807 | 1.45848 | 825.9637 |
| 29/32 | 1.45599 | 816.5604 | 1.45726 | 821.3299 | 1.45852 | 826.1133 |
| 15/16 | 1.45603 | 816.7092 | 1.45730 | 821.4792 | 1.45856 | 826.2630 |
| 31/32 | 1.45607 | 816.8581 | 1.45734 | 821.6285 | 1.45860 | 826.4128 |
| 1 | 1.45611 | 817.0069 | 1.45738 | 821.7778 | 1.45864 | 826.5625 |

| Fractions of an Inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.45864 | 826.5625 | 1.45989 | 831.3611 | 1.46115 | 836.1736 |
| 1/32 | 1.45868 | 826.7122 | 1.45993 | 831.5113 | 1.46119 | 836.3242 |
| 1/16 | 1.45872 | 826.8620 | 1.45997 | 831.6615 | 1.46123 | 836.4749 |
| 3/32 | 1.45876 | 827.0118 | 1.46001 | 831.8117 | 1.46127 | 836.6255 |
| 1/8 | 1.45880 | 827.1616 | 1.46005 | 831.9619 | 1.46130 | 836.7762 |
| 5/32 | 1.45883 | 827.3114 | 1.46009 | 832.1121 | 1.46134 | 836.9268 |
| 3/16 | 1.45887 | 827.4612 | 1.46013 | 832.2624 | 1.46138 | 837.0775 |
| 7/32 | 1.45891 | 827.6110 | 1.46017 | 832.4127 | 1.46142 | 837.2282 |
| 1/4 | 1.45895 | 827.7609 | 1.46021 | 832.5629 | 1.46146 | 837.3789 |
| 9/32 | 1.45899 | 827.9107 | 1.46025 | 832.7132 | 1.46150 | 837.5296 |
| 5/16 | 1.45903 | 828.0606 | 1.46029 | 832.8635 | 1.46154 | 837.6804 |
| 11/32 | 1.45907 | 828.2105 | 1.46033 | 833.0138 | 1.46158 | 837.8311 |
| 3/8 | 1.45911 | 828.3604 | 1.46037 | 833.1642 | 1.46162 | 837.9819 |
| 13/32 | 1.45915 | 828.5103 | 1.46040 | 833.3145 | 1.46166 | 838.1327 |
| 7/16 | 1.45919 | 828.6602 | 1.46044 | 833.4649 | 1.46170 | 838.2834 |
| 15/32 | 1.45923 | 828.8101 | 1.46048 | 833.6152 | 1.46173 | 838.4343 |
| 1/2 | 1.45927 | 828.9601 | 1.46052 | 833.7656 | 1.46177 | 838.5851 |
| 17/32 | 1.45931 | 829.1100 | 1.46056 | 833.9160 | 1.46181 | 838.7359 |
| 9/16 | 1.45935 | 829.2600 | 1.46060 | 834.0664 | 1.46185 | 838.8867 |
| 19/32 | 1.45938 | 829.4100 | 1.46064 | 834.2169 | 1.46189 | 839.0376 |
| 5/8 | 1.45942 | 829.5600 | 1.46068 | 834.3673 | 1.46193 | 839.1885 |
| 21/32 | 1.45946 | 829.7100 | 1.46072 | 834.5177 | 1.46197 | 839.3394 |
| 11/16 | 1.45950 | 829.8601 | 1.46076 | 834.6682 | 1.46201 | 839.4903 |
| 23/32 | 1.45954 | 830.0101 | 1.46080 | 834.8187 | 1.46205 | 839.6412 |
| 3/4 | 1.45958 | 830.1602 | 1.46084 | 834.9692 | 1.46209 | 839.7921 |
| 25/32 | 1.45962 | 830.3102 | 1.46087 | 835.1197 | 1.46212 | 839.9430 |
| 13/16 | 1.45966 | 830.4603 | 1.46091 | 835.2702 | 1.46216 | 840.0940 |
| 27/32 | 1.45970 | 830.6104 | 1.46095 | 835.4207 | 1.46220 | 840.2450 |
| 7/8 | 1.45974 | 830.7605 | 1.46099 | 835.5713 | 1.46224 | 840.3959 |
| 29/32 | 1.45978 | 830.9107 | 1.46103 | 835.7218 | 1.46228 | 840.5469 |
| 15/16 | 1.45982 | 831.0608 | 1.46107 | 835.8724 | 1.46232 | 840.6979 |
| 31/32 | 1.45986 | 831.2109 | 1.46111 | 836.0230 | 1.46236 | 840.8490 |
| 1 | 1.45989 | 831.3611 | 1.46115 | 836.1736 | 1.46240 | 841.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.46240 | 841.0000 | 1.46364 | 845.8403 | 1.46489 | 850.6944 |
| 1/32 | 1.46244 | 841.1510 | 1.46368 | 845.9918 | 1.46493 | 850.8464 |
| 1/16 | 1.46248 | 841.3021 | 1.46372 | 846.1433 | 1.46496 | 850.9983 |
| 3/32 | 1.46251 | 841.4532 | 1.46376 | 846.2948 | 1.46500 | 851.1502 |
| 1/8 | 1.46255 | 841.6043 | 1.46380 | 846.4463 | 1.46504 | 851.3022 |
| 5/32 | 1.46259 | 841.7554 | 1.46384 | 846.5978 | 1.46508 | 851.4542 |
| 3/16 | 1.46263 | 841.9065 | 1.46388 | 846.7494 | 1.46512 | 851.6061 |
| 7/32 | 1.46267 | 842.0576 | 1.46392 | 846.9009 | 1.46516 | 851.7581 |
| 1/4 | 1.46271 | 842.2088 | 1.46396 | 847.0525 | 1.46520 | 851.9102 |
| 9/32 | 1.46275 | 842.3599 | 1.46399 | 847.2041 | 1.46524 | 852.0622 |
| 5/16 | 1.46279 | 842.5111 | 1.46403 | 847.3557 | 1.46527 | 852.2142 |
| 11/32 | 1.46283 | 842.6623 | 1.46407 | 847.5073 | 1.46531 | 852.3663 |
| 3/8 | 1.46287 | 842.8135 | 1.46411 | 847.6590 | 1.46535 | 852.5183 |
| 13/32 | 1.46290 | 842.9647 | 1.46415 | 847.8106 | 1.46539 | 852.6704 |
| 7/16 | 1.46294 | 843.1159 | 1.46419 | 847.9623 | 1.46543 | 852.8225 |
| 15/32 | 1.46298 | 843.2672 | 1.46423 | 848.1139 | 1.46547 | 852.9746 |
| 1/2 | 1.46302 | 843.4184 | 1.46427 | 848.2656 | 1.46551 | 853.1267 |
| 17/32 | 1.46306 | 843.5697 | 1.46430 | 848.4173 | 1.46555 | 853.2789 |
| 9/16 | 1.46310 | 843.7209 | 1.46434 | 848.5690 | 1.46558 | 853.4310 |
| 19/32 | 1.46314 | 843.8722 | 1.46438 | 848.7208 | 1.46562 | 853.5832 |
| 5/8 | 1.46318 | 844.0235 | 1.46442 | 848.8725 | 1.46566 | 853.7354 |
| 21/32 | 1.46322 | 844.1749 | 1.46446 | 849.0243 | 1.46570 | 853.8875 |
| 11/16 | 1.46326 | 844.3262 | 1.46450 | 849.1760 | 1.46574 | 854.0397 |
| 23/32 | 1.46329 | 844.4775 | 1.46454 | 849.3278 | 1.46578 | 854.1920 |
| 3/4 | 1.46333 | 844.6289 | 1.46458 | 849.4796 | 1.46582 | 854.3442 |
| 25/32 | 1.46337 | 844.7803 | 1.46462 | 849.6314 | 1.46586 | 854.4964 |
| 13/16 | 1.46341 | 844.9317 | 1.46465 | 849.7832 | 1.46589 | 854.6487 |
| 27/32 | 1.46345 | 845.0831 | 1.46469 | 849.9351 | 1.46593 | 854.8010 |
| 7/8 | 1.46349 | 845.2345 | 1.46473 | 850.0869 | 1.46597 | 854.9532 |
| 29/32 | 1.46353 | 845.3859 | 1.46477 | 850.2388 | 1.46601 | 855.1055 |
| 15/16 | 1.46357 | 845.5374 | 1.46481 | 850.3907 | 1.46605 | 855.2578 |
| 31/32 | 1.46361 | 845.6888 | 1.46485 | 850.5425 | 1.46609 | 855.4102 |
| 1 | 1.46364 | 845.8403 | 1.46489 | 850.6944 | 1.46613 | 855.5625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.46613 | 855.5625 | 1.46736 | 860.4444 | 1.46859 | 865.3403 |
| 1/32 | 1.46616 | 855.7149 | 1.46740 | 860.5972 | 1.46863 | 865.4935 |
| 1/16 | 1.46620 | 855.8672 | 1.46744 | 860.7500 | 1.46867 | 865.6467 |
| 3/32 | 1.46624 | 856.0196 | 1.46748 | 860.9028 | 1.46871 | 865.8000 |
| 1/8 | 1.46628 | 856.1720 | 1.46752 | 861.0557 | 1.46875 | 865.9532 |
| 5/32 | 1.46632 | 856.3244 | 1.46755 | 861.2085 | 1.46879 | 866.1065 |
| 3/16 | 1.46636 | 856.4768 | 1.46759 | 861.3614 | 1.46882 | 866.2598 |
| 7/32 | 1.46640 | 856.6292 | 1.46763 | 861.5142 | 1.46886 | 866.4131 |
| 1/4 | 1.46644 | 856.7817 | 1.46767 | 861.6671 | 1.46890 | 866.5664 |
| 9/32 | 1.46647 | 856.9341 | 1.46771 | 861.8200 | 1.46894 | 866.7197 |
| 5/16 | 1.46651 | 857.0866 | 1.46775 | 861.9729 | 1.46898 | 866.8731 |
| 11/32 | 1.46655 | 857.2391 | 1.46779 | 862.1258 | 1.46902 | 867.0264 |
| 3/8 | 1.46659 | 857.3916 | 1.46782 | 862.2788 | 1.46905 | 867.1798 |
| 13/32 | 1.46663 | 857.5441 | 1.46786 | 862.4317 | 1.46909 | 867.3332 |
| 7/16 | 1.46667 | 857.6966 | 1.46790 | 862.5847 | 1.46913 | 867.4866 |
| 15/32 | 1.46671 | 857.8492 | 1.46794 | 862.7376 | 1.46917 | 867.6400 |
| 1/2 | 1.46674 | 858.0017 | 1.46798 | 862.8906 | 1.46921 | 867.7934 |
| 17/32 | 1.46678 | 858.1543 | 1.46802 | 863.0436 | 1.46925 | 867.9468 |
| 9/16 | 1.46682 | 858.3069 | 1.46805 | 863.1966 | 1.46928 | 868.1003 |
| 19/32 | 1.46686 | 858.4595 | 1.46809 | 863.3497 | 1.46932 | 868.2538 |
| 5/8 | 1.46690 | 858.6121 | 1.46813 | 863.5027 | 1.46936 | 868.4072 |
| 21/32 | 1.46694 | 858.7647 | 1.46817 | 863.6558 | 1.46940 | 868.5607 |
| 11/16 | 1.46698 | 858.9173 | 1.46821 | 863.8088 | 1.46944 | 868.7142 |
| 23/32 | 1.46701 | 859.0700 | 1.46825 | 863.9619 | 1.46948 | 868.8677 |
| 3/4 | 1.46705 | 859.2227 | 1.46829 | 864.1150 | 1.46952 | 869.0213 |
| 25/32 | 1.46709 | 859.3753 | 1.46832 | 864.2681 | 1.46955 | 869.1748 |
| 13/16 | 1.46713 | 859.5280 | 1.46836 | 864.4213 | 1.46959 | 869.3284 |
| 27/32 | 1.46717 | 859.6807 | 1.46840 | 864.5744 | 1.46963 | 869.4819 |
| 7/8 | 1.46721 | 859.8334 | 1.46844 | 864.7275 | 1.46967 | 869.6355 |
| 29/32 | 1.46725 | 859.9862 | 1.46848 | 864.8807 | 1.46971 | 869.7891 |
| 15/16 | 1.46728 | 860.1389 | 1.46852 | 865.0339 | 1.46975 | 869.9427 |
| 31/32 | 1.46732 | 860.2917 | 1.46856 | 865.1871 | 1.46978 | 870.0964 |
| 1 | 1.46736 | 860.4444 | 1.46859 | 865.3403 | 1.46982 | 870.2500 |

| Fractions of an Inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.46982 | 870.2500 | 1.47105 | 875.1736 | 1.47227 | 880.1111 |
| 1/32 | 1.46986 | 870.4037 | 1.47109 | 875.3277 | 1.47231 | 880.2656 |
| 1/16 | 1.46990 | 870.5573 | 1.47112 | 875.4818 | 1.47234 | 880.4202 |
| 3/32 | 1.46994 | 870.7110 | 1.47116 | 875.6359 | 1.47238 | 880.5747 |
| 1/8 | 1.46998 | 870.8647 | 1.47120 | 875.7900 | 1.47242 | 880.7293 |
| 5/32 | 1.47001 | 871.0184 | 1.47124 | 875.9442 | 1.47246 | 880.8839 |
| 3/16 | 1.47005 | 871.1721 | 1.47128 | 876.0983 | 1.47250 | 881.0384 |
| 7/32 | 1.47009 | 871.3259 | 1.47131 | 876.2525 | 1.47254 | 881.1930 |
| 1/4 | 1.47013 | 871.4796 | 1.47135 | 876.4067 | 1.47257 | 881.3477 |
| 9/32 | 1.47017 | 871.6334 | 1.47139 | 876.5609 | 1.47261 | 881.5023 |
| 5/16 | 1.47021 | 871.7871 | 1.47143 | 876.7151 | 1.47265 | 881.6569 |
| 11/32 | 1.47024 | 871.9409 | 1.47147 | 876.8693 | 1.47269 | 881.8116 |
| 3/8 | 1.47028 | 872.0947 | 1.47151 | 877.0235 | 1.47273 | 881.9663 |
| 13/32 | 1.47032 | 872.2485 | 1.47154 | 877.1778 | 1.47276 | 882.1209 |
| 7/16 | 1.47036 | 872.4024 | 1.47158 | 877.3321 | 1.47280 | 882.2756 |
| 15/32 | 1.47040 | 872.5562 | 1.47162 | 877.4863 | 1.47284 | 882.4303 |
| 1/2 | 1.47043 | 872.7101 | 1.47166 | 877.6406 | 1.47288 | 882.5851 |
| 17/32 | 1.47047 | 872.8639 | 1.47170 | 877.7949 | 1.47292 | 882.7398 |
| 9/16 | 1.47051 | 873.0178 | 1.47173 | 877.9492 | 1.47295 | 882.8946 |
| 19/32 | 1.47055 | 873.1717 | 1.47177 | 878.1036 | 1.47299 | 883.0493 |
| 5/8 | 1.47059 | 873.3256 | 1.47181 | 878.2579 | 1.47303 | 883.2041 |
| 21/32 | 1.47063 | 873.4796 | 1.47185 | 878.4123 | 1.47307 | 883.3589 |
| 11/16 | 1.47066 | 873.6335 | 1.47189 | 878.5666 | 1.47311 | 883.5137 |
| 23/32 | 1.47070 | 873.7874 | 1.47193 | 878.7210 | 1.47314 | 883.6685 |
| 3/4 | 1.47074 | 873.9414 | 1.47196 | 878.8754 | 1.47318 | 883.8234 |
| 25/32 | 1.47078 | 874.0954 | 1.47200 | 879.0298 | 1.47322 | 883.9782 |
| 13/16 | 1.47082 | 874.2494 | 1.47204 | 879.1843 | 1.47326 | 884.1331 |
| 27/32 | 1.47086 | 874.4034 | 1.47208 | 879.3387 | 1.47330 | 884.2879 |
| 7/8 | 1.47089 | 874.5574 | 1.47212 | 879.4932 | 1.47333 | 884.4428 |
| 29/32 | 1.47093 | 874.7114 | 1.47215 | 879.6476 | 1.47337 | 884.5977 |
| 15/16 | 1.47097 | 874.8655 | 1.47219 | 879.8021 | 1.47341 | 884.7526 |
| 31/32 | 1.47101 | 875.0195 | 1.47223 | 879.9566 | 1.47345 | 884.9076 |
| 1 | 1.47105 | 875.1736 | 1.47227 | 880.1111 | 1.47349 | 885.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.47349 | 885.0625 | 1.47470 | 890.0278 | 1.47591 | 895.0069 |
| 1/32 | 1.47352 | 885.2175 | 1.47474 | 890.1832 | 1.47595 | 895.1628 |
| 1/16 | 1.47356 | 885.3724 | 1.47478 | 890.3386 | 1.47599 | 895.3186 |
| 3/32 | 1.47360 | 885.5274 | 1.47482 | 890.4940 | 1.47603 | 895.4745 |
| 1/8 | 1.47364 | 885.6824 | 1.47485 | 890.6494 | 1.47606 | 895.6303 |
| 5/32 | 1.47368 | 885.8374 | 1.47489 | 890.8049 | 1.47610 | 895.7862 |
| 3/16 | 1.47372 | 885.9924 | 1.47493 | 890.9603 | 1.47614 | 895.9421 |
| 7/32 | 1.47375 | 886.1475 | 1.47497 | 891.1158 | 1.47618 | 896.0980 |
| 1/4 | 1.47379 | 886.3025 | 1.47500 | 891.2713 | 1.47622 | 896.2539 |
| 9/32 | 1.47383 | 886.4576 | 1.47504 | 891.4268 | 1.47625 | 896.4098 |
| 5/16 | 1.47387 | 886.6127 | 1.47508 | 891.5823 | 1.47629 | 896.5658 |
| 11/32 | 1.47390 | 886.7677 | 1.47512 | 891.7378 | 1.47633 | 896.7217 |
| 3/8 | 1.47394 | 886.9229 | 1.47516 | 891.8933 | 1.47637 | 896.8777 |
| 13/32 | 1.47398 | 887.0780 | 1.47519 | 892.0489 | 1.47640 | 897.0337 |
| 7/16 | 1.47402 | 887.2331 | 1.47523 | 892.2045 | 1.47644 | 897.1897 |
| 15/32 | 1.47406 | 887.3882 | 1.47527 | 892.3600 | 1.47648 | 897.3457 |
| 1/2 | 1.47409 | 887.5434 | 1.47531 | 892.5156 | 1.47652 | 897.5017 |
| 17/32 | 1.47413 | 887.6986 | 1.47535 | 892.6712 | 1.47656 | 897.6578 |
| 9/16 | 1.47417 | 887.8538 | 1.47538 | 892.8269 | 1.47659 | 897.8138 |
| 19/32 | 1.47421 | 888.0090 | 1.47542 | 892.9825 | 1.47663 | 897.9699 |
| 5/8 | 1.47425 | 888.1642 | 1.47546 | 893.1381 | 1.47667 | 898.1260 |
| 21/32 | 1.47428 | 888.3194 | 1.47550 | 893.2938 | 1.47671 | 898.2821 |
| 11/16 | 1.47432 | 888.4746 | 1.47553 | 893.4495 | 1.47674 | 898.4382 |
| 23/32 | 1.47436 | 888.6299 | 1.47557 | 893.6051 | 1.47678 | 898.5943 |
| 3/4 | 1.47440 | 888.7852 | 1.47561 | 893.7609 | 1.47682 | 898.7504 |
| 25/32 | 1.47444 | 888.9404 | 1.47565 | 893.9166 | 1.47686 | 898.9066 |
| 13/16 | 1.47447 | 889.0957 | 1.47569 | 894.0723 | 1.47690 | 899.0627 |
| 27/32 | 1.47451 | 889.2510 | 1.47572 | 894.2280 | 1.47693 | 899.2189 |
| 7/8 | 1.47455 | 889.4064 | 1.47576 | 894.3838 | 1.47697 | 899.3751 |
| 29/32 | 1.47459 | 889.5617 | 1.47580 | 894.5396 | 1.47701 | 899.5313 |
| 15/16 | 1.47463 | 889.7170 | 1.47584 | 894.6953 | 1.47705 | 899.6875 |
| 31/32 | 1.47466 | 889.8724 | 1.47588 | 894.8511 | 1.47708 | 899.8438 |
| 1 | 1.47470 | 890.0278 | 1.47591 | 895.0069 | 1.47712 | 900.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.47712 | 900.0000 | 1.47833 | 905.0069 | 1.47953 | 910.0278 |
| 1/32 | 1.47716 | 900.1563 | 1.47836 | 905.1636 | 1.47956 | 910.1849 |
| 1/16 | 1.47720 | 900.3125 | 1.47840 | 905.3203 | 1.47960 | 910.3420 |
| 3/32 | 1.47723 | 900.4688 | 1.47844 | 905.4771 | 1.47964 | 910.4992 |
| 1/8 | 1.47727 | 900.6251 | 1.47848 | 905.6338 | 1.47968 | 910.6564 |
| 5/32 | 1.47731 | 900.7814 | 1.47851 | 905.7905 | 1.47971 | 910.8135 |
| 3/16 | 1.47735 | 900.9377 | 1.47855 | 905.9473 | 1.47975 | 910.9707 |
| 7/32 | 1.47739 | 901.0941 | 1.47859 | 906.1041 | 1.47979 | 911.1279 |
| 1/4 | 1,47742 | 901.2504 | 1.47863 | 906.2609 | 1.47983 | 911.2852 |
| 9/32 | 1.47746 | 901.4068 | 1.47866 | 906.4176 | 1.47986 | 911.4424 |
| 5/16 | 1.47750 | 901.5632 | 1.47870 | 906.5745 | 1.47990 | 911.5996 |
| 11/32 | 1.47754 | 901.7196 | 1.47874 | 906.7313 | 1.47994 | 911.7569 |
| 3/8 | 1.47757 | 901.8760 | 1.47878 | 906.8881 | 1.47998 | 911.9142 |
| 13/32 | 1.47761 | 902.0324 | 1.47881 | 907.0450 | 1.48001 | 912.0715 |
| 7/16 | 1.47765 | 902.1888 | 1.47885 | 907.2018 | 1.48005 | 912.2288 |
| 15/32 | 1.47769 | 902.3453 | 1.47889 | 907.3587 | 1.48009 | 912.3861 |
| 1/2 | 1.47772 | 902.5017 | 1.47893 | 907.5156 | 1.48013 | 912.5434 |
| 17/32 | 1.47776 | 902.6582 | 1.47896 | 907.6725 | 1.48016 | 912.7007 |
| 9/16 | 1.47780 | 902.8147 | 1.47900 | 907.8295 | 1.48020 | 912.8581 |
| 19/32 | 1.47784 | 902.9712 | 1.47904 | 907.9864 | 1.48024 | 913.0155 |
| 5/8 | 1.47787 | 903.1277 | 1.47908 | 908.1433 | 1.48028 | 913.1729 |
| 21/32 | 1.47791 | 903.2842 | 1.47911 | 908.3003 | 1.48031 | 913.3302 |
| 11/16 | 1.47795 | 903.4408 | 1.47915 | 908.4573 | 1.48035 | 913.4877 |
| 23/32 | 1.47799 | 903.5973 | 1.47919 | 908.6143 | 1.48039 | 913.6451 |
| 3/4 | 1.47803 | 903.7539 | 1.47923 | 908.7713 | 1.48043 | 913.8025 |
| 25/32 | 1.47806 | 903.9105 | 1.47926 | 908.9283 | 1.48046 | 913.9600 |
| 13/16 | 1.47810 | 904.0671 | 1.47930 | 909.0853 | 1.48050 | 914.1174 |
| 27/32 | 1.47814 | 904.2237 | 1.47934 | 909.2424 | 1.48054 | 914.2749 |
| 7/8 | 1.47818 | 904.3803 | 1.47938 | 909.3994 | 1.48058 | 914.4324 |
| 29/32 | 1.47821 | 904.5370 | 1.47941 | 909.5565 | 1.48061 | 914.5899 |
| 15/16 | 1.47825 | 904.6936 | 1.47945 | 909.7136 | 1.48065 | 914.7474 |
| 31/32 | 1.47829 | 904.8503 | 1.47949 | 909.8707 | 1.48069 | 914.9050 |
| 1 | 1.47833 | 905.0069 | 1.47953 | 910.0278 | 1.48073 | 915.0625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.48073 | 915.0625 | 1.48192 | 920.1111 | 1.48311 | 925.1736 |
| 1/32 | 1.48076 | 915.2201 | 1.48196 | 920.2691 | 1.48315 | 925.3320 |
| 1/16 | 1.48080 | 915.3776 | 1.48199 | 920.4271 | 1.48319 | 925.4905 |
| 3/32 | 1.48084 | 915.5352 | 1.48203 | 920.5851 | 1.48322 | 925.6489 |
| 1/8 | 1.48087 | 915.6928 | 1.48207 | 920.7432 | 1.48326 | 925.8074 |
| 5/32 | 1.48091 | 915.8504 | 1.48211 | 920.9012 | 1.48330 | 925.9659 |
| 3/16 | 1.48095 | 916.0081 | 1.48214 | 921.0593 | 1.48333 | 926.1244 |
| 7/32 | 1.48099 | 916.1657 | 1.48218 | 921.2173 | 1.48337 | 926.2829 |
| 1/4 | 1.48102 | 916.3234 | 1.48222 | 921.3754 | 1.48341 | 926.4414 |
| 9/32 | 1.48106 | 916.4810 | 1.48226 | 921.5335 | 1.48345 | 926.5999 |
| 5/16 | 1.48110 | 916.6387 | 1.48229 | 921.6917 | 1.48348 | 926.7585 |
| 11/32 | 1.48114 | 916.7964 | 1.48233 | 921.8498 | 1.48352 | 926.9171 |
| 3/8 | 1.48117 | 916.9541 | 1.48237 | 922.0079 | 1.48356 | 927.0756 |
| 13/32 | 1.48121 | 917.1118 | 1.48240 | 922.1661 | 1.48359 | 927.2342 |
| 7/16 | 1.48125 | 917.2696 | 1.48244 | 922.3242 | 1.48363 | 927.3928 |
| 15/32 | 1.48129 | 917.4273 | 1.48248 | 922.4824 | 1.48367 | 927.5514 |
| 1/2 | 1.48132 | 917.5851 | 1.48252 | 922.6406 | 1.48371 | 927.7101 |
| 17/32 | 1.48136 | 917.7428 | 1.48255 | 922.7988 | 1.48374 | 927.8687 |
| 9/16 | 1.48140 | 917.9006 | 1.48259 | 922.9571 | 1.48378 | 928.0274 |
| 19/32 | 1.48144 | 918.0584 | 1.48263 | 923.1153 | 1.48382 | 928.1860 |
| 5/8 | 1.48147 | 918.2163 | 1.48267 | 923.2735 | 1.48385 | 928.3447 |
| 21/32 | 1.48151 | 918.3741 | 1.48270 | 923.4318 | 1.48389 | 928.5034 |
| 11/16 | 1.48155 | 918.5319 | 1.48274 | 923.5901 | 1.48393 | 928.6621 |
| 23/32 | 1.48158 | 918.6898 | 1.48278 | 923.7484 | 1.48397 | 928.8209 |
| 3/4 | 1.48162 | 918.8477 | 1.48281 | 923.9067 | 1.48400 | 928.9796 |
| 25/32 | 1.48166 | 919.0055 | 1.48285 | 924.0650 | 1.48404 | 929.1384 |
| 13/16 | 1.48170 | 919.1634 | 1.48289 | 924.2233 | 1.48408 | 929.2971 |
| 27/32 | 1.48173 | 919.3214 | 1.48293 | 924.3817 | 1.48411 | 929.4559 |
| 7/8 | 1.48177 | 919.4793 | 1.48296 | 924.5400 | 1.48415 | 929.6147 |
| 29/32 | 1.48181 | 919.6372 | 1.48300 | 924.6984 | 1.48419 | 929.7735 |
| 15/16 | 1.48185 | 919.7952 | 1.48304 | 924.8568 | 1.48423 | 929.9323 |
| 31/32 | 1.48188 | 919.9531 | 1.48307 | 925.0152 | 1.48426 | 930.0912 |
| 1 | 1.48192 | 920.1111 | 1.48311 | 925.1736 | 1.48430 | 930.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.48430 | 930.2500 | 1.48548 | 935.3403 | 1.48667 | 940.4444 |
| 1/32 | 1.48434 | 930.4089 | 1.48552 | 935.4996 | 1.48670 | 940.6042 |
| 1/16 | 1.48437 | 930.5677 | 1.48556 | 935.6589 | 1.48674 | 940.7639 |
| 3/32 | 1.48441 | 930.7266 | 1.48560 | 935.8182 | 1.48678 | 940.9237 |
| 1/8 | 1.48445 | 930.8855 | 1.48563 | 935.9775 | 1.48681 | 941.0834 |
| 5/32 | 1.48449 | 931.0444 | 1.48567 | 936.1369 | 1.48685 | 941.2432 |
| 3/16 | 1.48452 | 931.2034 | 1.48571 | 936.2963 | 1.48689 | 941.4030 |
| 7/32 | 1.48456 | 931.3623 | 1.48574 | 936.4556 | 1.48692 | 941.5628 |
| 1/4 | 1.48460 | 931.5213 | 1.48578 | 936.6150 | 1.48696 | 941.7227 |
| 9/32 | 1.48463 | 931.6802 | 1.48582 | 936.7744 | 1.48700 | 941.8825 |
| 5/16 | 1.48467 | 931.8392 | 1.48585 | 936.9338 | 1.48704 | 942.0423 |
| 11/32 | 1.48471 | 931.9982 | 1.48589 | 937.0933 | 1.48707 | 942.2022 |
| 3/8 | 1.48474 | 932.1572 | 1.48593 | 937.2527 | 1.48711 | 942.3621 |
| 13/32 | 1.48478 | 932.3163 | 1.48597 | 937.4122 | 1.48715 | 942.5220 |
| 7/16 | 1.48482 | 932.4753 | 1.48600 | 937.5716 | 1.48718 | 942.6819 |
| 15/32 | 1.48486 | 932.6343 | 1.48604 | 937.7311 | 1.48722 | 942.8418 |
| 1/2 | 1.48489 | 932.7934 | 1.48608 | 937.8906 | 1.48726 | 943.0017 |
| 17/32 | 1.48493 | 932.9525 | 1.48611 | 938.0501 | 1.48729 | 943.1617 |
| 9/16 | 1.48497 | 933.1116 | 1.48615 | 938.2097 | 1.48733 | 943.3216 |
| 19/32 | 1.48500 | 933.2707 | 1.48619 | 938.3692 | 1.48737 | 943.4816 |
| 5/8 | 1.48504 | 933.4298 | 1.48622 | 938.5288 | 1.48740 | 943.6416 |
| 21/32 | 1.48508 | 933.5889 | 1.48626 | 938.6883 | 1.48744 | 943.8016 |
| 11/16 | 1.48511 | 933.7481 | 1.48630 | 938.8479 | 1.48748 | 943.9616 |
| 23/32 | 1.48515 | 933.9072 | 1.48633 | 939.0075 | 1.48751 | 944.1216 |
| 3/4 | 1.48519 | 934.0664 | 1.48637 | 939.1671 | 1.48755 | 944.2817 |
| 25/32 | 1.48523 | 934.2256 | 1.48641 | 939.3267 | 1.48759 | 944.4417 |
| 13/16 | 1.48526 | 934.3848 | 1.48645 | 939.4864 | 1.48762 | 944.6018 |
| 27/32 | 1.48530 | 934.5440 | 1.48648 | 939.6460 | 1.48766 | 944.7619 |
| 7/8 | 1.48534 | 934.7032 | 1.48652 | 939.8057 | 1.48770 | 944.9220 |
| 29/32 | 1.48537 | 934.8625 | 1.48656 | 939.9653 | 1.48773 | 945.0821 |
| 15/16 | 1.48541 | 935.0217 | 1.48659 | 940.1250 | 1.48777 | 945.2422 |
| 31/32 | 1.48545 | 935.1810 | 1.48663 | 940.2847 | 1.48781 | 945.4024 |
| 1 | 1.48548 | 935.3403 | 1.48667 | 940.4444 | 1.48785 | 945.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.48785 | 945.5625 | 1.48902 | 950.6944 | 1.49019 | 955.8403 |
| 1/32 | 1.48788 | 945.7227 | 1.48906 | 950.8550 | 1.49023 | 956.0013 |
| 1/16 | 1.48792 | 945.8828 | 1.48909 | 951.0157 | 1.49027 | 956.1624 |
| 3/32 | 1.48796 | 946.0430 | 1.48913 | 951.1763 | 1.49030 | 956.3234 |
| 1/8 | 1.48799 | 946.2032 | 1.48917 | 951.3369 | 1.49034 | 956.4845 |
| 5/32 | 1.48803 | 946.3635 | 1.48920 | 951.4976 | 1.49038 | 956.6456 |
| 3/16 | 1.48807 | 946.5237 | 1.48924 | 951.6582 | 1.49041 | 956.8067 |
| 7/32 | 1.48810 | 946.6839 | 1.48928 | 951.8189 | 1.49045 | 956.9678 |
| 1/4 | 1.48814 | 946.8442 | 1.48931 | 951.9796 | 1.49049 | 957.1289 |
| 9/32 | 1.48818 | 947.0045 | 1.48935 | 952.1403 | 1.49052 | 957.2900 |
| 5/16 | 1.48821 | 947.1647 | 1.48939 | 952.3010 | 1.49056 | 957.4512 |
| 11/32 | 1.48825 | 947.3250 | 1.48942 | 952.4618 | 1.49059 | 957.6124 |
| 3/8 | 1.48829 | 947.4854 | 1.48946 | 952.6225 | 1.49063 | 957.7735 |
| 13/32 | 1.48832 | 947.6457 | 1.48950 | 952.7833 | 1.49067 | 957.9347 |
| 7/16 | 1.48836 | 947.8060 | 1.48953 | 952.9440 | 1.49070 | 958.0959 |
| 15/32 | 1.48840 | 947.9664 | 1.48957 | 953.1048 | 1.49074 | 958.2572 |
| 1/2 | 1.48843 | 948.1267 | 1.48961 | 953.2656 | 1.49078 | 958.4184 |
| 17/32 | 1.48847 | 948.2871 | 1.48964 | 953.4264 | 1.49081 | 958.5797 |
| 9/16 | 1.48851 | 948.4475 | 1.48968 | 953.5873 | 1.49085 | 958.7409 |
| 19/32 | 1.48854 | 948.6079 | 1.48972 | 953.7481 | 1.49089 | 958.9022 |
| 5/8 | 1.48858 | 948.7683 | 1.48975 | 953.9090 | 1.49092 | 959.0635 |
| 21/32 | 1.48862 | 948.9288 | 1.48979 | 954.0698 | 1.49096 | 959.2248 |
| 11/16 | 1.48865 | 949.0892 | 1.48983 | 954.2307 | 1.49100 | 959.3861 |
| 23/32 | 1.48869 | 949.2497 | 1.48986 | 954.3916 | 1.49103 | 959.5474 |
| 3/4 | 1.48873 | 949.4102 | 1.48990 | 954.5525 | 1.49107 | 959.7088 |
| 25/32 | 1.48876 | 949.5706 | 1.48994 | 954.7134 | 1.49111 | 959.8701 |
| 13/16 | 1.48880 | 949.7311 | 1.48997 | 954.8744 | 1.49114 | 960.0315 |
| 27/32 | 1.48884 | 949.8917 | 1.49001 | 955.0353 | 1.49118 | 960.1929 |
| 7/8 | 1.48887 | 950.0522 | 1.49005 | 955.1963 | 1.49122 | 960.3543 |
| 29/32 | 1.48891 | 950.2127 | 1.49008 | 955.3573 | 1.49125 | 960.5157 |
| 15/16 | 1.48895 | 950.3733 | 1.49012 | 955.5183 | 1.49129 | 960.6771 |
| 31/32 | 1.48898 | 950.5339 | 1.49016 | 955.6793 | 1.49133 | 960.8385 |
| 1 | 1.48902 | 950.6944 | 1.49019 | 955.8403 | 1.49136 | 961.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.49136 | 961.0000 | 1.49253 | 966.1736 | 1.49369 | 971.3611 |
| 1/32 | 1.49140 | 961.1615 | 1.49256 | 966.3355 | 1.49373 | 971.5234 |
| 1/16 | 1.49143 | 961.3229 | 1.49260 | 966.4974 | 1.49376 | 971.6858 |
| 3/32 | 1.49147 | 961.4844 | 1.49264 | 966.6593 | 1.49380 | 971.8482 |
| 1/8 | 1.49151 | 961.6459 | 1.49267 | 966.8213 | 1.49384 | 972.0105 |
| 5/32 | 1.49154 | 961.8075 | 1.49271 | 966.9832 | 1.49387 | 972.1729 |
| 3/16 | 1.49158 | 961.9690 | 1.49275 | 967.1452 | 1.49391 | 972.3353 |
| 7/32 | 1.49162 | 962.1305 | 1.49278 | 967.3072 | 1.49394 | 972.4977 |
| 1/4 | 1.49165 | 962.2921 | 1.49282 | 967.4692 | 1.49398 | 972.6602 |
| 9/32 | 1.49169 | 962.4537 | 1.49285 | 967.6312 | 1.49402 | 972.8226 |
| 5/16 | 1.49173 | 962.6153 | 1.49289 | 967.7932 | 1.49405 | 972.9851 |
| 11/32 | 1.49176 | 962.7769 | 1.49293 | 967.9552 | 1.49409 | 973.1475 |
| 3/8 | 1.49180 | 962.9385 | 1.49296 | 968.1173 | 1.49413 | 973.3100 |
| 13/32 | 1.49184 | 963.1001 | 1.49300 | 968.2794 | 1.49416 | 973.4725 |
| 7/16 | 1.49187 | 963.2617 | 1.49304 | 968.4414 | 1.49420 | 973.6350 |
| 15/32 | 1.49191 | 963.4234 | 1.49307 | 968.6035 | 1.49423 | 973.7975 |
| 1/2 | 1.49195 | 963.5851 | 1.49311 | 968.7656 | 1.49427 | 973.9601 |
| 17/32 | 1.49198 | 963.7468 | 1.49315 | 968.9277 | 1.49431 | 974.1226 |
| 9/16 | 1.49202 | 963.9084 | 1.49318 | 969.0899 | 1.49434 | 974.2852 |
| 19/32 | 1.49205 | 964.0702 | 1.49322 | 969.2520 | 1.49438 | 974.4478 |
| 5/8 | 1.49209 | 964.2319 | 1.49325 | 969.4142 | 1.49442 | 974.6104 |
| 21/32 | 1.49213 | 964.3936 | 1.49329 | 969.5763 | 1.49445 | 974.7730 |
| 11/16 | 1.49216 | 964.5554 | 1.49333 | 969.7385 | 1.49449 | 974.9356 |
| 23/32 | 1.49220 | 964.7171 | 1.49336 | 969.9007 | 1.49452 | 975.0982 |
| 3/4 | 1.49224 | 964.8789 | 1.49340 | 970.0629 | 1.49456 | 975.2609 |
| 25/32 | 1.49227 | 965.0407 | 1.49344 | 970.2252 | 1.49460 | 975.4235 |
| 13/16 | 1.49231 | 965.2025 | 1.49347 | 970.3874 | 1.49463 | 975.5862 |
| 27/32 | 1.49235 | 965.3643 | 1.49351 | 970.5496 | 1.49467 | 975.7489 |
| 7/8 | 1.49238 | 965.5261 | 1.49355 | 970.7119 | 1.49471 | 975.9116 |
| 29/32 | 1.49242 | 965.6880 | 1.49358 | 970.8742 | 1.49474 | 976.0743 |
| 15/16 | 1.49245 | 965.8499 | 1.49362 | 971.0365 | 1.49478 | 976.2370 |
| 31/32 | 1.49249 | 966.0117 | 1.49365 | 971.1988 | 1.49481 | 976.3997 |
| 1 | 1.49253 | 966.1736 | 1.49369 | 971.3611 | 1.49485 | 976.5625 |

| Fractions of an inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.49485 | 976.5625 | 1.49601 | 981.7778 | 1.49716 | 987.0069 |
| 1/32 | 1.49489 | 976.7253 | 1.49604 | 981.9410 | 1.49720 | 987.1706 |
| 1/16 | 1.49492 | 976.8880 | 1.49608 | 982.1042 | 1.49723 | 987.3342 |
| 3/32 | 1.49496 | 977.0508 | 1.49611 | 982.2674 | 1.49727 | 987.4979 |
| 1/8 | 1.49499 | 977.2137 | 1.49615 | 982.4307 | 1.49730 | 987.6616 |
| 5/32 | 1.49503 | 977.3765 | 1.49619 | 982.5939 | 1.49734 | 987.8253 |
| 3/16 | 1.49507 | 977.5393 | 1.49622 | 982.7572 | 1.49738 | 987.9890 |
| 7/32 | 1.49510 | 977.7022 | 1.49626 | 982.9205 | 1.49741 | 988.1527 |
| 1/4 | 1.49514 | 977.8650 | 1.49630 | 983.0838 | 1.49745 | 988.3164 |
| 9/32 | 1.49518 | 978.0279 | 1.49633 | 983.2471 | 1.49748 | 988.4802 |
| 5/16 | 1.49521 | 978.1908 | 1.49637 | 983.4104 | 1.49752 | 988.6439 |
| 11/32 | 1.49525 | 978.3537 | 1.49640 | 983.5737 | 1.49756 | 988.8077 |
| 3/8 | 1.49528 | 978.5166 | 1.49644 | 983.7371 | 1.49759 | 988.9715 |
| 13/32 | 1.49532 | 978.6795 | 1.49648 | 983.9005 | 1.49763 | 989.1353 |
| 7/16 | 1.49536 | 978.8425 | 1.49651 | 984.0638 | 1.49766 | 989.2991 |
| 15/32 | 1.49539 | 979.0054 | 1.49655 | 984.2272 | 1.49770 | 989.4629 |
| 1/2 | 1.49543 | 979.1684 | 1.49658 | 984.3906 | 1.49774 | 989.6267 |
| 17/32 | 1.49546 | 979.3314 | 1.49662 | 984.5540 | 1.49777 | 989.7906 |
| 9/16 | 1.49550 | 979.4944 | 1.49666 | 984.7175 | 1.49781 | 989.9545 |
| 19/32 | 1.49554 | 979.6574 | 1.49669 | 984.8809 | 1.49784 | 990.1183 |
| 5/8 | 1.49557 | 979.8204 | 1.49673 | 985.0444 | 1.49788 | 990.2822 |
| 21/32 | 1.49561 | 979.9835 | 1.49676 | 985.2079 | 1.49792 | 990.4461 |
| 11/16 | 1.49565 | 980.1465 | 1.49680 | 985.3713 | 1.49795 | 990.6101 |
| 23/32 | 1.49568 | 980.3096 | 1.49684 | 985.5348 | 1.49799 | 990.7740 |
| 3/4 | 1.49572 | 980.4727 | 1.49687 | 985.6984 | 1.49802 | 990.9379 |
| 25/32 | 1.49575 | 980.6357 | 1.49691 | 985.8619 | 1.49806 | 991.1019 |
| 13/16 | 1.49579 | 980.7989 | 1.49694 | 986.0254 | 1.49810 | 991.2659 |
| 27/32 | 1.49583 | 980.9620 | 1.49698 | 986.1890 | 1.49813 | 991.4299 |
| 7/8 | 1.49586 | 981.1251 | 1.49702 | 986.3525 | 1.49817 | 991.5939 |
| 29/32 | 1.49590 | 981.2883 | 1.49705 | 986.5161 | 1.49820 | 991.7579 |
| 15/16 | 1.49593 | 981.4514 | 1.49709 | 986.6797 | 1.49824 | 991.9219 |
| 31/32 | 1.49597 | 981.6146 | 1.49712 | 986.8433 | 1.49827 | 992.0859 |
| 1 | 1.49601 | 981.7778 | 1.49716 | 987.0069 | 1.49831 | 992.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.49831 | 992.2500 | 1.49946 | 997.5069 | 1.50060 | 1002.7778 |
| 1/32 | 1.49835 | 992.4141 | 1.49949 | 997.6714 | 1.50064 | 1002.9427 |
| 1/16 | 1.49838 | 992.5782 | 1.49953 | 997.8360 | 1.50067 | 1003.1077 |
| 3/32 | 1.49842 | 992.7422 | 1.49957 | 998.0005 | 1.50071 | 1003.2726 |
| 1/8 | 1.49845 | 992.9064 | 1.49960 | 998.1650 | 1.50075 | 1003.4376 |
| 5/32 | 1.49849 | 993.0705 | 1.49964 | 998.3296 | 1.50078 | 1003.6026 |
| 3/16 | 1.49853 | 993.2346 | 1.49967 | 998.4942 | 1.50082 | 1003.7676 |
| 7/32 | 1.49856 | 993.3988 | 1.49971 | 998.6588 | 1.50085 | 1003.9326 |
| 1/4 | 1.49860 | 993.5629 | 1.49974 | 998.8234 | 1.50089 | 1004.0977 |
| 9/32 | 1.49863 | 993.7271 | 1.49978 | 998.9880 | 1.50092 | 1004.2627 |
| 5/16 | 1.49867 | 993.8913 | 1.49982 | 999.1526 | 1.50096 | 1004.4278 |
| 11/32 | 1.49871 | 994.0555 | 1.49985 | 999.3172 | 1.50100 | 1004.5928 |
| 3/8 | 1.49874 | 994.2197 | 1.49989 | 999.4819 | 1.50103 | 1004.7579 |
| 13/32 | 1.49878 | 994.3840 | 1.49992 | 999.6465 | 1.50107 | 1004.9230 |
| 7/16 | 1.49881 | 994.5482 | 1.49996 | 999.8112 | 1.50110 | 1005.0881 |
| 15/32 | 1.49885 | 994.7125 | 1.49999 | 999.9759 | 1.50114 | 1005.2533 |
| 1/2 | 1.49888 | 994.8767 | 1.50003 | 1000.1406 | 1.50117 | 1005.4184 |
| 17/32 | 1.49892 | 995.0410 | 1.50007 | 1000.3053 | 1.50121 | 1005.5836 |
| 9/16 | 1.49896 | 995.2053 | 1.50010 | 1000.4701 | 1.50124 | 1005.7487 |
| 19/32 | 1.49899 | 995.3696 | 1.50014 | 1000.6348 | 1.50128 | 1005.9139 |
| 5/8 | 1.49903 | 995.5340 | 1.50017 | 1000.7996 | 1.50132 | 1006.0791 |
| 21/32 | 1.49906 | 995.6983 | 1.50021 | 1000.9644 | 1.50135 | 1006.2443 |
| 11/16 | 1.49910 | 995.8627 | 1.50025 | 1001.1292 | 1.50139 | 1006.4095 |
| 23/32 | 1.49914 | 996.0270 | 1.50028 | 1001.2940 | 1.50142 | 1006.5748 |
| 3/4 | 1.49917 | 996.1914 | 1.50032 | 1001.4588 | 1.50146 | 1006.7400 |
| 25/32 | 1.49921 | 996.3558 | 1.50035 | 1001.6236 | 1.50149 | 1006.9053 |
| 13/16 | 1.49924 | 996.5202 | 1.50039 | 1001.7884 | 1.50153 | 1007.0706 |
| 27/32 | 1.49928 | 996.6846 | 1.50042 | 1001.9533 | 1.50157 | 1007.2358 |
| 7/8 | 1.49931 | 996.8491 | 1.50046 | 1002.1182 | 1.50160 | 1007.4012 |
| 29/32 | 1.49935 | 997.0135 | 1.50050 | 1002.2830 | 1.50164 | 1007.5665 |
| 15/16 | 1.49939 | 997.1780 | 1.50053 | 1002.4479 | 1.50167 | 1007.7318 |
| 31/32 | 1.49942 | 997.3425 | 1.50057 | 1002.6129 | 1.50171 | 1007.8971 |
| 1 | 1.49946 | 997.5069 | 1.50060 | 1002.7778 | 1.50174 | 1008.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.50174 | 1008.0625 | 1.50288 | 1013.3611 | 1.50402 | 1018.6736 |
| 1/32 | 1.50178 | 1008.2279 | 1.50292 | 1013.5269 | 1.50405 | 1018.8399 |
| 1/16 | 1.50181 | 1008.3933 | 1.50295 | 1013.6927 | 1.50409 | 1019.0061 |
| 3/32 | 1.50185 | 1008.5587 | 1.50299 | 1013.8586 | 1.50412 | 1019.1724 |
| 1/8 | 1.50189 | 1008.7241 | 1.50302 | 1014.0244 | 1.50416 | 1019.3387 |
| 5/32 | 1.50192 | 1008.8895 | 1.50306 | 1014.1903 | 1.50419 | 1019.5049 |
| 3/16 | 1.50196 | 1009.0549 | 1.50310 | 1014.3561 | 1.50423 | 1019.6713 |
| 7/32 | 1.50199 | 1009.2204 | 1.50313 | 1014.5220 | 1.50427 | 1019.8376 |
| 1/4 | 1.50203 | 1009.3859 | 1.50317 | 1014.6879 | 1.50430 | 1020.0039 |
| 9/32 | 1.50206 | 1009.5513 | 1.50320 | 1014.8538 | 1.50434 | 1020.1703 |
| 5/16 | 1.50210 | 1009.7168 | 1.50324 | 1015.0198 | 1.50437 | 1020.3366 |
| 11/32 | 1.50214 | 1009.8823 | 1.50327 | 1015.1857 | 1.50441 | 1020.5030 |
| 3/8 | 1.50217 | 1010.0479 | 1.50331 | 1015.3517 | 1.50444 | 1020.6694 |
| 13/32 | 1.50221 | 1010.2134 | 1.50334 | 1015.5176 | 1.50448 | 1020.8358 |
| 7/16 | 1.50224 | 1010.3789 | 1.50338 | 1015.6836 | 1.50451 | 1021.0022 |
| 15/32 | 1.50228 | 1010.5445 | 1.50341 | 1015.8496 | 1.50455 | 1021.1686 |
| 1/2 | 1.50231 | 1010.7101 | 1.50345 | 1016.0156 | 1.50458 | 1021.3351 |
| 17/32 | 1.50235 | 1010.8757 | 1.50349 | 1016.1816 | 1.50462 | 1021.5015 |
| 9/16 | 1.50238 | 1011.0413 | 1.50352 | 1016.3477 | 1.50465 | 1021.6680 |
| 19/32 | 1.50242 | 1011.2069 | 1.50356 | 1016.5137 | 1.50469 | 1021.8345 |
| 5/8 | 1.50246 | 1011.3725 | 1.50359 | 1016.6798 | 1.50473 | 1022.0010 |
| 21/32 | 1.50249 | 1011.5381 | 1.50363 | 1016.8459 | 1.50476 | 1022.1675 |
| 11/16 | 1.50253 | 1011.7038 | 1.50366 | 1017.0120 | 1.50480 | 1022.3340 |
| 23/32 | 1.50256 | 1011.8695 | 1.50370 | 1017.1781 | 1.50483 | 1022.5005 |
| 3/4 | 1.50260 | 1012.0352 | 1.50373 | 1017.3442 | 1.50487 | 1022.6671 |
| 25/32 | 1.50263 | 1012.2009 | 1.50377 | 1017.5103 | 1.50490 | 1022.8337 |
| 13/16 | 1.50267 | 1012.3666 | 1.50380 | 1017.6765 | 1.50494 | 1023.0002 |
| 27/32 | 1.50270 | 1012.5323 | 1.50384 | 1017.8426 | 1.50497 | 1023.1668 |
| 7/8 | 1.50274 | 1012.6980 | 1.50388 | 1018.0088 | 1.50501 | 1023.3334 |
| 29/32 | 1.50278 | 1012.8638 | 1.50391 | 1018.1750 | 1.50504 | 1023.5001 |
| 15/16 | 1.50281 | 1013.0295 | 1.50395 | 1018.3412 | 1.50508 | 1023.6667 |
| 31/32 | 1.50285 | 1013.1953 | 1.50398 | 1018.5074 | 1.50511 | 1023.8333 |
| 1 | 1.50288 | 1013.3611 | 1.50402 | 1018.6736 | 1.50515 | 1024.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.50515 | 1024.0000 | 1.50628 | 1029.3403 | 1.50741 | 1034.6944 |
| 1/32 | 1.50519 | 1024.1667 | 1.50631 | 1029.5074 | 1.50744 | 1034.8620 |
| 1/16 | 1.50522 | 1024.3334 | 1.50635 | 1029.6745 | 1.50748 | 1035.0295 |
| 3/32 | 1.50526 | 1024.5001 | 1.50639 | 1029.8416 | 1.50751 | 1035.1971 |
| 1/8 | 1.50529 | 1024.6668 | 1.50642 | 1030.0088 | 1.50755 | 1035.3647 |
| 5/32 | 1.50533 | 1024.8335 | 1.50646 | 1030.1760 | 1.50758 | 1035.5323 |
| 3/16 | 1.50536 | 1025.0002 | 1.50649 | 1030.3431 | 1.50762 | 1035.6999 |
| 7/32 | 1.50540 | 1025.1670 | 1.50653 | 1030.5103 | 1.50765 | 1035.8675 |
| 1/4 | 1.50543 | 1025.3338 | 1.50656 | 1030.6775 | 1.50769 | 1036.0352 |
| 9/32 | 1.50547 | 1025.5005 | 1.50660 | 1030.8447 | 1.50772 | 1036.2028 |
| 5/16 | 1.50550 | 1025.6673 | 1.50663 | 1031.0120 | 1.50776 | 1036.3705 |
| 11/32 | 1.50554 | 1025.8342 | 1.50667 | 1031.1792 | 1.50779 | 1036.5381 |
| 3/8 | 1.50557 | 1026.0010 | 1.50670 | 1031.3465 | 1.50783 | 1036.7058 |
| 13/32 | 1.50561 | 1026.1678 | 1.50674 | 1031.5137 | 1.50786 | 1036.8735 |
| 7/16 | 1.50564 | 1026.3347 | 1.50677 | 1031.6810 | 1.50790 | 1037.0413 |
| 15/32 | 1.50568 | 1026.5015 | 1.50681 | 1031.8483 | 1.50793 | 1037.2090 |
| 1/2 | 1.50572 | 1026.6684 | 1.50684 | 1032.0156 | 1.50797 | 1037.3767 |
| 17/32 | 1.50575 | 1026.8353 | 1.50688 | 1032.1829 | 1.50800 | 1037.5445 |
| 9/16 | 1.50579 | 1027.0022 | 1.50691 | 1032.3503 | 1.50804 | 1037.7123 |
| 19/32 | 1.50582 | 1027.1691 | 1.50695 | 1032.5176 | 1.50807 | 1037.8801 |
| 5/8 | 1.50586 | 1027.3360 | 1.50698 | 1032.6850 | 1.50811 | 1038.0479 |
| 21/32 | 1.50589 | 1027.5030 | 1.50702 | 1032.8524 | 1.50814 | 1038.2157 |
| 11/16 | 1.50593 | 1027.6699 | 1.50705 | 1033.0198 | 1.50818 | 1038.3835 |
| 23/32 | 1.50596 | 1027.8369 | 1.50709 | 1033.1872 | 1.50821 | 1038.5513 |
| 3/4 | 1.50600 | 1028.0039 | 1.50712 | 1033.3546 | 1.50825 | 1038.7192 |
| 25/32 | 1.50603 | 1028.1709 | 1.50716 | 1033.5220 | 1.50828 | 1038.8871 |
| 13/16 | 1.50607 | 1028.3379 | 1.50720 | 1033.6895 | 1.50832 | 1039.0549 |
| 27/32 | 1.50610 | 1028.5049 | 1.50723 | 1033.8569 | 1.50835 | 1039.2228 |
| 7/8 | 1.50614 | 1028.6720 | 1.50727 | 1034.0244 | 1.50839 | 1039.3907 |
| 29/32 | 1.50617 | 1028.8390 | 1.50730 | 1034.1919 | 1.50842 | 1039.5587 |
| 15/16 | 1.50621 | 1029.0061 | 1.50734 | 1034.3594 | 1.50846 | 1039.7266 |
| 31/32 | 1.50624 | 1029.1732 | 1.50737 | 1034.5269 | 1.50849 | 1039.8945 |
| 1 | 1.50628 | 1029.3403 | 1.50741 | 1034.6944 | 1.50853 | 1040.0625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.50853 | 1040.0625 | 1.50965 | 1045.4444 | 1.51077 | 1050.8403 |
| 1/32 | 1.50856 | 1040.2305 | 1.50969 | 1045.6129 | 1.51080 | 1051.0091 |
| 1/16 | 1.50860 | 1040.3985 | 1.50972 | 1045.7813 | 1.51084 | 1051.1780 |
| 3/32 | 1.50863 | 1040.5665 | 1.50976 | 1045.9497 | 1.51087 | 1051.3468 |
| 1/8 | 1.50867 | 1040.7345 | 1.50979 | 1046.1182 | 1.51091 | 1051.5157 |
| 5/32 | 1.50871 | 1040.9025 | 1.50983 | 1046.2866 | 1.51094 | 1051.6846 |
| 3/16 | 1.50874 | 1041.0706 | 1.50986 | 1046.4551 | 1.51098 | 1051.8535 |
| 7/32 | 1.50878 | 1041.2386 | 1.50990 | 1046.6236 | 1.51101 | 1052.0225 |
| 1/4 | 1.50881 | 1041.4067 | 1.50993 | 1046.7921 | 1.51105 | 1052.1914 |
| 9/32 | 1.50885 | 1041.5748 | 1.50997 | 1046.9606 | 1.51108 | 1052.3604 |
| 5/16 | 1.50888 | 1041.7429 | 1.51000 | 1047.1292 | 1.51112 | 1052.5293 |
| 11/32 | 1.50892 | 1041.9110 | 1.51004 | 1047.2977 | 1.51115 | 1052.6983 |
| 3/8 | 1.50895 | 1042.0791 | 1.51007 | 1047.4663 | 1.51119 | 1052.8673 |
| 13/32 | 1.50899 | 1042.2472 | 1.51010 | 1047.6348 | 1.51122 | 1053.0363 |
| 7/16 | 1.50902 | 1042.4154 | 1.51014 | 1047.8034 | 1.51126 | 1053.2053 |
| 15/32 | 1.50906 | 1042.5836 | 1.51017 | 1047.9720 | 1.51129 | 1053.3744 |
| 1/2 | 1.50909 | 1042.7517 | 1.51021 | 1048.1406 | 1.51133 | 1053.5434 |
| 17/32 | 1.50913 | 1042.9199 | 1.51024 | 1048.3093 | 1.51136 | 1053.7125 |
| 9/16 | 1.50916 | 1043.0881 | 1.51028 | 1048.4779 | 1.51140 | 1053.8815 |
| 19/32 | 1.50920 | 1043.2564 | 1.51031 | 1048.6465 | 1.51143 | 1054.0506 |
| 5/8 | 1.50923 | 1043.4246 | 1.51035 | 1048.8152 | 1.51147 | 1054.2197 |
| 21/32 | 1.50927 | 1043.5928 | 1.51038 | 1048.9839 | 1.51150 | 1054.3888 |
| 11/16 | 1.50930 | 1043.7611 | 1.51042 | 1049.1526 | 1.51154 | 1054.5580 |
| 23/32 | 1.50934 | 1043.9294 | 1.51045 | 1049.3213 | 1.51157 | 1054.7271 |
| 3/4 | 1.50937 | 1044.0977 | 1.51049 | 1049.4900 | 1.51160 | 1054.8963 |
| 25/32 | 1.50941 | 1044.2660 | 1.51052 | 1049.6588 | 1.51164 | 1055.0654 |
| 13/16 | 1.50944 | 1044.4343 | 1.51056 | 1049.8275 | 1.51167 | 1055.2346 |
| 27/32 | 1.50948 | 1044.6026 | 1.51059 | 1049.9963 | 1.51171 | 1055.4038 |
| 7/8 | 1.50951 | 1044.7709 | 1.51063 | 1050.1650 | 1.51174 | 1055.5730 |
| 29/32 | 1.50955 | 1044.9393 | 1.51066 | 1050.3338 | 1.51178 | 1055.7422 |
| 15/16 | 1.50958 | 1045.1077 | 1.51070 | 1050.5026 | 1.51181 | 1055.9115 |
| 31/32 | 1.50962 | 1045.2760 | 1.51073 | 1050.6714 | 1.51185 | 1056.0807 |
| 1 | 1.50965 | 1045.4444 | 1.51077 | 1050.8403 | 1.51188 | 1056.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.51188 | 1056.2500 | 1.51300 | 1061.6736 | 1.51410 | 1067.1111 |
| 1/32 | 1.51192 | 1056.4193 | 1.51303 | 1061.8433 | 1.51414 | 1067.2813 |
| 1/16 | 1.51195 | 1056.5886 | 1.51306 | 1062.0130 | 1.51417 | 1067.4514 |
| 3/32 | 1.51199 | 1056.7579 | 1.51310 | 1062.1828 | 1.51421 | 1067.6216 |
| 1/8 | 1.51202 | 1056.9272 | 1.51313 | 1062.3525 | 1.51424 | 1067.7918 |
| 5/32 | 1.51206 | 1057.0965 | 1.51317 | 1062.5223 | 1.51428 | 1067.9620 |
| 3/16 | 1.51209 | 1057.2659 | 1.51320 | 1062.6921 | 1.51431 | 1068.1322 |
| 7/32 | 1.51213 | 1057.4352 | 1.51324 | 1062.8619 | 1.51435 | 1068.3024 |
| 1/4 | 1.51216 | 1057.6046 | 1.51327 | 1063.0317 | 1.51438 | 1068.4727 |
| 9/32 | 1.51220 | 1057.7740 | 1.51331 | 1063.2015 | 1.51442 | 1068.6429 |
| 5/16 | 1.51223 | 1057.9434 | 1.51334 | 1063.3713 | 1.51445 | 1068.8132 |
| 11/32 | 1.51227 | 1058.1128 | 1.51338 | 1063.5412 | 1.51449 | 1068.9835 |
| 3/8 | 1.51230 | 1058.2822 | 1.51341 | 1063.7110 | 1.51452 | 1069.1538 |
| 13/32 | 1.51234 | 1058.4517 | 1.51345 | 1063.8809 | 1.51455 | 1069.3241 |
| 7/16 | 1.51237 | 1058.6211 | 1.51348 | 1064.0508 | 1.51459 | 1069.4944 |
| 15/32 | 1.51241 | 1058.7906 | 1.51352 | 1064.2207 | 1.51462 | 1069.6647 |
| 1/2 | 1.51244 | 1058.9601 | 1.51355 | 1064.3906 | 1.51466 | 1069.8351 |
| 17/32 | 1.51247 | 1059.1296 | 1.51359 | 1064.5606 | 1.51469 | 1070.0054 |
| 9/16 | 1.51251 | 1059.2991 | 1.51362 | 1064.7305 | 1.51473 | 1070.1758 |
| 19/32 | 1.51254 | 1059.4686 | 1.51365 | 1064.9005 | 1.51476 | 1070.3462 |
| 5/8 | 1.51258 | 1059.6381 | 1.51369 | 1065.0704 | 1.51480 | 1070.5166 |
| 21/32 | 1 51261 | 1059.8077 | 1.51372 | 1065.2404 | 1.51483 | 1070.6870 |
| 11/16 | 1.51265 | 1059.9772 | 1.51376 | 1065.4104 | 1.51487 | 1070.8574 |
| 23/32 | 1.51268 | 1060.1468 | 1.51379 | 1065.5804 | 1.51490 | 1071.0279 |
| 3/4 | 1.51272 | 1060.3164 | 1.51383 | 1065.7504 | 1.51493 | 1071.1984 |
| 25/32 | 1.51275 | 1060.4860 | 1.51386 | 1065.9205 | 1.51497 | 1071.3688 |
| 13/16 | 1.51279 | 1060.6556 | 1.51390 | 1066.0905 | 1.51500 | 1071.5393 |
| 27/32 | 1.51282 | 1060.8253 | 1.51393 | 1066.2606 | 1.51504 | 1071.7098 |
| 7/8 | 1.51286 | 1060.9949 | 1.51397 | 1066.4307 | 1.51507 | 1071.8803 |
| 29/32 | 1.51289 | 1061.1646 | 1.51400 | 1066.6008 | 1.51511 | 1072.0508 |
| 15/16 | 1.51293 | 1061.3342 | 1.51404 | 1066.7709 | 1.51514 | 1072.2214 |
| 31/32 | 1.51296 | 1061.5039 | 1.51407 | 1066.9410 | 1.51518 | 1072.3919 |
| 1 | 1.51300 | 1061.6736 | 1.51410 | 1067.1111 | 1.51521 | 1072.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.51521 | 1072.5625 | 1.51631 | 1078.0278 | 1.51742 | 1083.5069 |
| 1/32 | 1.51525 | 1072.7331 | 1.51635 | 1078.1988 | 1.51745 | 1083.6784 |
| 1/16 | 1.51528 | 1072.9037 | 1.51638 | 1078.3698 | 1.51748 | 1083.8499 |
| 3/32 | 1.51531 | 1073.0743 | 1.51642 | 1078.5409 | 1.51752 | 1084.0213 |
| 1/8 | 1.51535 | 1073.2449 | 1.51645 | 1078.7119 | 1.51755 | 1084.1928 |
| 5/32 | 1.51538 | 1073.4155 | 1.51649 | 1078.8830 | 1.51759 | 1084.3643 |
| 3/16 | 1.51542 | 1073.5862 | 1.51652 | 1079.0541 | 1.51762 | 1084.5358 |
| 7/32 | 1.51545 | 1073.7568 | 1.51656 | 1079.2252 | 1.51766 | 1084.7074 |
| 1/4 | 1.51549 | 1073.9275 | 1.51659 | 1079.3963 | 1.51769 | 1084.8789 |
| 9/32 | 1.51552 | 1074.0982 | 1.51662 | 1079.5674 | 1.51772 | 1085.0505 |
| 5/16 | 1.51556 | 1074.2689 | 1.51666 | 1079.7385 | 1.51776 | 1085.2220 |
| 11/32 | 1.51559 | 1074.4396 | 1.51669 | 1079.9097 | 1.51779 | 1085.3936 |
| 3/8 | 1.51563 | 1074.6104 | 1.51673 | 1080.0808 | 1.51783 | 1085.5652 |
| 13/32 | 1.51566 | 1074.7811 | 1.51676 | 1080.2520 | 1.51786 | 1085.7368 |
| 7/16 | 1.51569 | 1074.9518 | 1.51680 | 1080.4232 | 1.51790 | 1085.9084 |
| 15/32 | 1.51573 | 1075.1226 | 1.51683 | 1080.5944 | 1.51793 | 1086.0801 |
| 1/2 | 1.51576 | 1075.2934 | 1.51687 | 1080.7656 | 1.51797 | 1086.2517 |
| 17/32 | 1.51580 | 1075.4642 | 1.51690 | 1080.9369 | 1.51800 | 1086.4234 |
| 9/16 | 1.51583 | 1075.6350 | 1.51693 | 1081.1081 | 1.51803 | 1086.5951 |
| 19/32 | 1.51587 | 1075.8058 | 1.51697 | 1081.2794 | 1.51807 | 1086.7668 |
| 5/8 | 1.51590 | 1075.9767 | 1.51700 | 1081.4506 | 1.51810 | 1086.9385 |
| 21/32 | 1.51594 | 1076.1475 | 1.51704 | 1081.6219 | 1.51814 | 1087.1102 |
| 11/16 | 1.51597 | 1076.3184 | 1.51707 | 1081.7932 | 1.51817 | 1087.2819 |
| 23/32 | 1.51600 | 1076.4893 | 1.51711 | 1081.9645 | 1.51821 | 1087.4537 |
| 3/4 | 1.51604 | 1076.6602 | 1.51714 | 1082.1359 | 1.51824 | 1087.6254 |
| 25/32 | 1.51607 | 1076.8311 | 1.51718 | 1082.3072 | 1.51827 | 1087.7972 |
| 13/16 | 1.51611 | 1077.0020 | 1.51721 | 1082.4785 | 1.51831 | 1087.9690 |
| 27/32 | 1.51614 | 1077.1729 | 1.51724 | 1082.6499 | 1.51834 | 1088.1408 |
| 7/8 | 1.51618 | 1077.3439 | 1.51728 | 1082.8213 | 1.51838 | 1088.3126 |
| 29/32 | 1.51621 | 1077.5148 | 1.51731 | 1082.9927 | 1.51841 | 1088.4844 |
| 15/16 | 1.51625 | 1077.6858 | 1.51735 | 1083.1641 | 1.51845 | 1088.6563 |
| 31/32 | 1.51628 | 1077.8568 | 1.51738 | 1083.3355 | 1.51848 | 1088.8281 |
| 1 | 1.51631 | 1078.0278 | 1.51742 | 1083.5069 | 1.51851 | 1089.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.51851 | 1089.0000 | 1.51961 | 1094.5069 | 1.52070 | 1100.0278 |
| 1/32 | 1.51855 | 1089.1719 | 1.51964 | 1094.6793 | 1.52074 | 1100.2005 |
| 1/16 | 1.51858 | 1089.3438 | 1.51968 | 1094.8516 | 1.52077 | 1100.3733 |
| 3/32 | 1.51862 | 1089.5157 | 1.51971 | 1095.0239 | 1.52080 | 1100.5461 |
| 1/8 | 1.51865 | 1089.6876 | 1.51975 | 1095.1963 | 1.52084 | 1100.7189 |
| 5/32 | 1.51869 | 1089.8595 | 1.51978 | 1095.3687 | 1.52087 | 1100.8917 |
| 3/16 | 1.51872 | 1090.0315 | 1.51981 | 1095.5410 | 1.52091 | 1101.0645 |
| 7/32 | 1.51875 | 1090.2035 | 1.51985 | 1095.7134 | 1.52094 | 1101.2373 |
| 1/4 | 1.51879 | 1090.3754 | 1.51988 | 1095.8859 | 1.52097 | 1101.4102 |
| 9/32 | 1.51882 | 1090.5474 | 1.51992 | 1096.0583 | 1.52101 | 1101.5830 |
| 5/16 | 1.51886 | 1090.7194 | 1.51995 | 1096.2307 | 1.52104 | 1101.7559 |
| 11/32 | 1.51889 | 1090.8914 | 1.51999 | 1096.4032 | 1.52108 | 1101.9288 |
| 3/8 | 1.51893 | 1091.0635 | 1.52002 | 1096.5756 | 1.52111 | 1102.1017 |
| 13/32 | 1.51896 | 1091.2355 | 1.52005 | 1096.7481 | 1.52114 | 1102.2746 |
| 7/16 | 1.51899 | 1091.4076 | 1.52009 | 1096.9206 | 1.52118 | 1102.4475 |
| 15/32 | 1.51903 | 1091.5797 | 1.52012 | 1097.0931 | 1.52121 | 1102.6204 |
| 1/2 | 1.51906 | 1091.7517 | 1.52016 | 1097.2656 | 1.52125 | 1102.7934 |
| 17/32 | 1.51910 | 1091.9238 | 1.52019 | 1097.4382 | 1.52128 | 1102.9664 |
| 9/16 | 1.51913 | 1092.0959 | 1.52022 | 1097.6107 | 1.52132 | 1103.1394 |
| 19/32 | 1.51916 | 1092.2681 | 1.52026 | 1097.7833 | 1.52135 | 1103.3123 |
| 5/8 | 1.51920 | 1092.4402 | 1.52029 | 1097.9558 | 1.52138 | 1103.4854 |
| 21/32 | 1.51923 | 1092.6124 | 1.52033 | 1098.1284 | 1.52142 | 1103.6584 |
| 11/16 | 1.51927 | 1092.7845 | 1.52036 | 1098.3010 | 1.52145 | 1103.8314 |
| 23/32 | 1.51930 | 1092.9567 | 1.52039 | 1098.4736 | 1.52149 | 1104.0045 |
| 3/4 | 1.51934 | 1093.1289 | 1.52043 | 1098.6463 | 1.52152 | 1104.1775 |
| 25/32 | 1.51937 | 1093.3011 | 1.52046 | 1098.8189 | 1.52155 | 1104.3506 |
| 13/16 | 1.51940 | 1093.4733 | 1.52050 | 1098.9916 | 1.52159 | 1104.5237 |
| 27/32 | 1.51944 | 1093.6456 | 1.52053 | 1099.1642 | 1.52162 | 1104.6968 |
| 7/8 | 1.51947 | 1093.8178 | 1.52057 | 1099.3369 | 1.52166 | 1104.8699 |
| 29/32 | 1.51951 | 1093.9901 | 1.52060 | 1099.5096 | 1.52169 | 1105.0430 |
| 15/16 | 1.51954 | 1094.1624 | 1.52063 | 1099.6823 | 1.52172 | 1105.2162 |
| 31/32 | 1.51958 | 1094.3346 | 1.52067 | 1099.8550 | 1.52176 | 1105.3893 |
| 1 | 1.51961 | 1094.5069 | 1.52070 | 1100.0278 | 1.52179 | 1105.5625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.52179 | 1105.5625 | 1.52288 | 1111.1111 | 1.52396 | 1116.6736 |
| 1/32 | 1.52183 | 1105.7357 | 1.52291 | 1111.2847 | 1.52400 | 1116.8477 |
| 1/16 | 1.52186 | 1105.9089 | 1.52295 | 1111.4584 | 1.52403 | 1117.0217 |
| 3/32 | 1.52189 | 1106.0821 | 1.52298 | 1111.6320 | 1.52406 | 1117.1958 |
| 1/8 | 1.52193 | 1106.2553 | 1.52301 | 1111.8057 | 1.52410 | 1117.3699 |
| 5/32 | 1.52196 | 1106.4286 | 1.52305 | 1111.9793 | 1.52413 | 1117.5440 |
| 3/16 | 1.52200 | 1106.6018 | 1.52308 | 1112.1530 | 1.52417 | 1117.7181 |
| 7/32 | 1.52203 | 1106.7751 | 1.52312 | 1112.3267 | 1.52420 | 1117.8923 |
| 1/4 | 1.52206 | 1106.9484 | 1.52315 | 1112.5004 | 1.52423 | 1118.0664 |
| 9/32 | 1.52210 | 1107.1216 | 1.52318 | 1112.6742 | 1.52427 | 1118.2406 |
| 5/16 | 1.52213 | 1107.2949 | 1.52322 | 1112.8479 | 1.52430 | 1118.4147 |
| 11/32 | 1.52217 | 1107.4683 | 1.52325 | 1113.0217 | 1.52434 | 1118.5889 |
| 3/8 | 1.52220 | 1107.6416 | 1.52329 | 1113.1954 | 1.52437 | 1118.7631 |
| 13/32 | 1.52223 | 1107.8149 | 1.52332 | 1113.3692 | 1.52440 | 1118.9373 |
| 7/16 | 1.52227 | 1107.9883 | 1.52335 | 1113.5430 | 1.52444 | 1119.1116 |
| 15/32 | 1.52230 | 1108.1617 | 1.52339 | 1113.7168 | 1.52447 | 1119.2858 |
| 1/2 | 1.52234 | 1108.3351 | 1.52342 | 1113.8906 | 1.52450 | 1119.4601 |
| 17/32 | 1.52237 | 1108.5085 | 1.52346 | 1114.0645 | 1.52454 | 1119.6343 |
| 9/16 | 1.52240 | 1108.6819 | 1.52349 | 1114.2383 | 1.52457 | 1119.8086 |
| 19/32 | 1.52244 | 1108.8553 | 1.52352 | 1114.4122 | 1.52461 | 1119.9829 |
| 5/8 | 1.52247 | 1109.0288 | 1.52356 | 1114.5860 | 1.52464 | 1120.1572 |
| 21/32 | 1.52251 | 1109.2022 | 1.52359 | 1114.7599 | 1.52467 | 1120.3315 |
| 11/16 | 1.52254 | 1109.3757 | 1.52362 | 1114.9338 | 1.52471 | 1120.5059 |
| 23/32 | 1.52257 | 1109.5492 | 1.52366 | 1115.1078 | 1.52474 | 1120.6802 |
| 3/4 | 1.52261 | 1109.7227 | 1.52369 | 1115.2817 | 1.52477 | 1120.8546 |
| 25/32 | 1.52264 | 1109.8962 | 1.52373 | 1115.4556 | 1.52481 | 1121.0290 |
| 13/16 | 1.52268 | 1110.0697 | 1.52376 | 1115.6296 | 1.52484 | 1121.2034 |
| 27/32 | 1.52271 | 1110.2432 | 1.52379 | 1115.8036 | 1.52488 | 1121.3778 |
| 7/8 | 1.52274 | 1110.4168 | 1.52383 | 1115.9775 | 1.52491 | 1121.5522 |
| 29/32 | 1.52278 | 1110.5903 | 1.52386 | 1116.1515 | 1.52494 | 1121.7266 |
| 15/16 | 1.52281 | 1110.7639 | 1.52390 | 1116.3255 | 1.52498 | 1121.9011 |
| 31/32 | 1.52284 | 1110.9375 | 1.52393 | 1116.4996 | 1.52501 | 1122.0755 |
| 1 | 1.52288 | 1111.1111 | 1.52396 | 1116.6736 | 1.52504 | 1122.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.52504 | 1122.2500 | 1.52612 | 1127.8403 | 1.52720 | 1133.4444 |
| 1/32 | 1.52508 | 1122.4245 | 1.52616 | 1128.0152 | 1.52723 | 1133.6198 |
| 1/16 | 1.52511 | 1122.5990 | 1.52619 | 1128.1901 | 1.52727 | 1133.7952 |
| 3/32 | 1.52515 | 1122.7735 | 1.52622 | 1128.3651 | 1.52730 | 1133.9705 |
| 1/8 | 1.52518 | 1122.9480 | 1.52626 | 1128.5400 | 1.52733 | 1134.1459 |
| 5/32 | 1.52521 | 1123.1226 | 1.52629 | 1128.7150 | 1.52737 | 1134.3213 |
| 3/16 | 1.52525 | 1123.2971 | 1.52633 | 1128.8900 | 1.52740 | 1134.4968 |
| 7/32 | 1.52528 | 1123.4717 | 1.52636 | 1129.0650 | 1.52744 | 1134.6722 |
| 1/4 | 1.52531 | 1123.6463 | 1.52639 | 1129.2400 | 1.52747 | 1134.8477 |
| 9/32 | 1.52535 | 1123.8209 | 1.52643 | 1129.4150 | 1.52750 | 1135.0231 |
| 5/16 | 1.52538 | 1123.9955 | 1.52646 | 1129.5901 | 1.52754 | 1135.1986 |
| 11/32 | 1.52542 | 1124.1701 | 1.52649 | 1129.7651 | 1.52757 | 1135.3741 |
| 3/8 | 1.52545 | 1124.3447 | 1.52653 | 1129.9402 | 1.52760 | 1135.5496 |
| 13/32 | 1.52548 | 1124.5194 | 1.52656 | 1130.1153 | 1.52764 | 1135.7251 |
| 7/16 | 1.52552 | 1124.6940 | 1.52660 | 1130.2904 | 1.52767 | 1135.9006 |
| 15/32 | 1.52555 | 1124.8687 | 1.52663 | 1130.4655 | 1.52770 | 1136.0762 |
| 1/2 | 1.52558 | 1125.0434 | 1.52666 | 1130.6406 | 1.52774 | 1136.2517 |
| 17/32 | 1.52562 | 1125.2181 | 1.52670 | 1130.8158 | 1.52777 | 1136.4273 |
| 9/16 | 1.52565 | 1125.3928 | 1.52673 | 1130.9909 | 1.52780 | 1136.6029 |
| 19/32 | 1.52569 | 1125.5676 | 1.52676 | 1131.1661 | 1.52784 | 1136.7785 |
| 5/8 | 1.52572 | 1125.7423 | 1.52680 | 1131.3413 | 1.52787 | 1136.9541 |
| 21/32 | 1.52575 | 1125.9171 | 1.52683 | 1131.5164 | 1.52791 | 1137.1297 |
| 11/16 | 1.52579 | 1126.0918 | 1.52686 | 1131.6917 | 1.52794 | 1137.3054 |
| 23/32 | 1.52582 | 1126.2666 | 1.52690 | 1131.8669 | 1.52797 | 1137.4810 |
| 3/4 | 1.52585 | 1126.4414 | 1.52693 | 1132.0421 | 1.52801 | 1137.6567 |
| 25/32 | 1.52589 | 1126.6162 | 1.52696 | 1132.2173 | 1.52804 | 1137.8324 |
| 13/16 | 1.52592 | 1126.7910 | 1.52700 | 1132.3926 | 1.52807 | 1138.0081 |
| 27/32 | 1.52596 | 1126.9659 | 1.52703 | 1132.5679 | 1.52811 | 1138.1838 |
| 7/8 | 1.52599 | 1127.1407 | 1.52707 | 1132.7432 | 1.52814 | 1138.3595 |
| 29/32 | 1.52602 | 1127.3156 | 1.52710 | 1132.9185 | 1.52817 | 1138.5352 |
| 15/16 | 1.52606 | 1127.4905 | 1.52713 | 1133.0938 | 1.52821 | 1138.7110 |
| 31/32 | 1.52609 | 1127.6654 | 1.52717 | 1133.2691 | 1.52824 | 1138.8867 |
| 1 | 1.52612 | 1127.8403 | 1.52720 | 1133.4444 | 1.52827 | 1139.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.52827 | 1139.0625 | 1.52934 | 1144.6944 | 1.53041 | 1150.3403 |
| 1/32 | 1.52831 | 1139.2383 | 1.52938 | 1144.8707 | 1.53045 | 1150.5169 |
| 1/16 | 1.52834 | 1139.4141 | 1.52941 | 1145.0469 | 1.53048 | 1150.6936 |
| 3/32 | 1.52837 | 1139.5899 | 1.52945 | 1145.2232 | 1.53051 | 1150.8703 |
| 1/8 | 1.52841 | 1139.7657 | 1.52948 | 1145.3994 | 1.53055 | 1151.0470 |
| 5/32 | 1.52844 | 1139.9416 | 1.52951 | 1145.5757 | 1.53058 | 1151.2237 |
| 3/16 | 1.52847 | 1140.1174 | 1.52955 | 1145.7520 | 1.53061 | 1151.4004 |
| 7/32 | 1.52851 | 1140.2933 | 1.52958 | 1145.9283 | 1.53065 | 1151.5772 |
| 1/4 | 1.52854 | 1140.4692 | 1.52961 | 1146.1046 | 1.53068 | 1151.7539 |
| 9/32 | 1.52858 | 1140.6451 | 1.52965 | 1146.2809 | 1.53071 | 1151.9307 |
| 5/16 | 1.52861 | 1140.8210 | 1.52968 | 1146.4573 | 1.53075 | 1152.1074 |
| 11/32 | 1.52864 | 1140.9969 | 1.52971 | 1146.6336 | 1.53078 | 1152.2842 |
| 3/8 | 1.52868 | 1141.1729 | 1.52975 | 1146.8100 | 1.53081 | 1152.4610 |
| 13/32 | 1.52871 | 1141.3488 | 1.52978 | 1146.9864 | 1.53085 | 1152.6379 |
| 7/16 | 1.52874 | 1141.5248 | 1.52981 | 1147.1628 | 1.53088 | 1152.8147 |
| 15/32 | 1.52878 | 1141.7007 | 1.52985 | 1147.3392 | 1.53091 | 1152.9915 |
| 1/2 | 1.52881 | 1141.8767 | 1.52988 | 1147.5156 | 1.53095 | 1153.1684 |
| 17/32 | 1.52884 | 1142.0527 | 1.52991 | 1147.6921 | 1.53098 | 1153.3453 |
| 9/16 | 1.52888 | 1142.2288 | 1.52995 | 1147.8685 | 1.53101 | 1153.5222 |
| 19/32 | 1.52891 | 1142.4048 | 1.52998 | 1148.0450 | 1.53105 | 1153.6991 |
| 5/8 | 1.52894 | 1142.5808 | 1.53001 | 1148.2215 | 1.53108 | 1153.8760 |
| 21/32 | 1.52898 | 1142.7569 | 1.53005 | 1148.3980 | 1.53111 | 1154.0529 |
| 11/16 | 1.52901 | 1142.9330 | 1.53008 | 1148.5745 | 1.53115 | 1154.2298 |
| 23/32 | 1.52904 | 1143.1091 | 1.53011 | 1148.7510 | 1.53118 | 1154.4068 |
| 3/4 | 1.52908 | 1143.2852 | 1.53015 | 1148.9275 | 1.53121 | 1154.5838 |
| 25/32 | 1.52911 | 1143.4613 | 1.53018 | 1149.1041 | 1.53125 | 1154.7607 |
| 13/16 | 1.52914 | 1143.6374 | 1.53021 | 1149.2806 | 1.53128 | 1154.9377 |
| 27/32 | 1.52918 | 1143.8135 | 1.53025 | 1149.4572 | 1.53131 | 1155.1148 |
| 7/8 | 1.52921 | 1143.9897 | 1.53028 | 1149.6338 | 1.53135 | 1155.2918 |
| 29/32 | 1.52924 | 1144.1659 | 1.53031 | 1149.8104 | 1.53138 | 1155.4688 |
| 15/16 | 1.52928 | 1144.3420 | 1.53035 | 1149.9870 | 1.53141 | 1155.6459 |
| 31/32 | 1.52931 | 1144.5182 | 1.53038 | 1150.1636 | 1.53145 | 1155.8229 |
| 1 | 1.52934 | 1144.6944 | 1.53041 | 1150.3403 | 1.53148 | 1156.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.53148 | 1156.0000 | 1.53254 | 1161.6736 | 1.53360 | 1167.3611 |
| 1/32 | 1.53151 | 1156.1771 | 1.53258 | 1161.8511 | 1.53364 | 1167.5391 |
| 1/16 | 1.53155 | 1156.3542 | 1.53261 | 1162.0287 | 1.53367 | 1167.7170 |
| 3/32 | 1.53158 | 1156.5313 | 1.53264 | 1162.2062 | 1.53370 | 1167.8950 |
| 1/8 | 1.53161 | 1156.7084 | 1.53267 | 1162.3838 | 1.53373 | 1168.0730 |
| 5/32 | 1.53165 | 1156.8856 | 1.53271 | 1162.5614 | 1.53377 | 1168.2510 |
| 3/16 | 1.53168 | 1157.0627 | 1.53274 | 1162.7390 | 1.53380 | 1168.4291 |
| 7/32 | 1.53171 | 1157.2399 | 1.53277 | 1162.9166 | 1.53383 | 1168.6071 |
| 1/4 | 1.53174 | 1157.4171 | 1.53281 | 1163.0942 | 1.53387 | 1168.7852 |
| 9/32 | 1.53178 | 1157.5943 | 1.53284 | 1163.2718 | 1.53390 | 1168.9632 |
| 5/16 | 1.53181 | 1157.7715 | 1.53287 | 1163.4495 | 1.53393 | 1169.1413 |
| 11/32 | 1.53184 | 1157.9487 | 1.53291 | 1163.6271 | 1.53397 | 1169.3194 |
| 3/8 | 1.53188 | 1158.1260 | 1.53294 | 1163.8048 | 1.53400 | 1169.4975 |
| 13/32 | 1.53191 | 1158.3032 | 1.53297 | 1163.9825 | 1.53403 | 1169.6756 |
| 7/16 | 1.53194 | 1158.4805 | 1.53301 | 1164.1602 | 1.53407 | 1169.8538 |
| 15/32 | 1.53198 | 1158.6578 | 1.53304 | 1164.3379 | 1.53410 | 1170.0319 |
| 1/2 | 1.53201 | 1158.8351 | 1.53307 | 1164.5156 | 1.53413 | 1170.2101 |
| 17/32 | 1.53204 | 1159.0124 | 1.53311 | 1164.6934 | 1.53416 | 1170.3882 |
| 9/16 | 1.53208 | 1159.1897 | 1.53314 | 1164.8711 | 1.53420 | 1170.5664 |
| 19/32 | 1.53211 | 1159.3670 | 1.53317 | 1165.0489 | 1.53423 | 1170.7446 |
| 5/8 | 1.53214 | 1159.5444 | 1.53321 | 1165.2267 | 1.53426 | 1170.9229 |
| 21/32 | 1.53218 | 1159.7217 | 1.53324 | 1165.4045 | 1.53430 | 1171.1011 |
| 11/16 | 1.53221 | 1159.8991 | 1.53327 | 1165.5823 | 1.53433 | 1171.2793 |
| 23/32 | 1.53224 | 1160.0765 | 1.53330 | 1165.7601 | 1.53436 | 1171.4576 |
| 3/4 | 1.53228 | 1160.2539 | 1.53334 | 1165.9379 | 1.53440 | 1171.6359 |
| 25/32 | 1.53231 | 1160.4313 | 1.53337 | 1166.1158 | 1.53443 | 1171.8141 |
| 13/16 | 1.53234 | 1160.6088 | 1.53340 | 1166.2936 | 1.53446 | 1171.9924 |
| 27/32 | 1.53238 | 1160.7862 | 1.53344 | 1166.4715 | 1.53450 | 1172.1707 |
| 7/8 | 1.53241 | 1160.9636 | 1.53347 | 1166.6494 | 1.53453 | 1172.3491 |
| 29/32 | 1.53244 | 1161.1411 | 1.53350 | 1166.8273 | 1.53456 | 1172.5274 |
| 15/16 | 1.53248 | 1161.3186 | 1.53354 | 1167.0052 | 1.53459 | 1172.7058 |
| 31/32 | 1.53251 | 1161.4961 | 1.53357 | 1167.1832 | 1.53463 | 1172.8841 |
| 1 | 1.53254 | 1161.6736 | 1.53360 | 1167.3611 | 1.53466 | 1173.0625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.53466 | 1173.0625 | 1.53572 | 1178.7778 | 1.53677 | 1184.5069 |
| 1/32 | 1.53469 | 1173.2409 | 1.53575 | 1178.9566 | 1.53680 | 1184.6862 |
| 1/16 | 1.53473 | 1173.4193 | 1.53578 | 1179.1354 | 1.53683 | 1184.8655 |
| 3/32 | 1.53476 | 1173.5977 | 1.53581 | 1179.3143 | 1.53687 | 1185.0448 |
| 1/8 | 1.53479 | 1173.7762 | 1.53585 | 1179.4932 | 1.53690 | 1185.2241 |
| 5/32 | 1.53483 | 1173.9546 | 1.53588 | 1179.6720 | 1.53693 | 1185.4034 |
| 3/16 | 1.53486 | 1174.1331 | 1.53591 | 1179.8509 | 1.53697 | 1185.5827 |
| 7/32 | 1.53489 | 1174.3115 | 1.53595 | 1180.0298 | 1.53700 | 1185.7621 |
| 1/4 | 1.53492 | 1174.4900 | 1.53598 | 1180.2088 | 1.53703 | 1185.9414 |
| 9/32 | 1.53496 | 1174.6685 | 1.53601 | 1180.3877 | 1.53706 | 1186.1208 |
| 5/16 | 1.53499 | 1174.8470 | 1.53605 | 1180.5667 | 1.53710 | 1186.3002 |
| 11/32 | 1.53502 | 1175.0256 | 1.53608 | 1180.7456 | 1.53713 | 1186.4796 |
| 3/8 | 1.53506 | 1175.2041 | 1.53611 | 1180.9246 | 1.53716 | 1186.6590 |
| 13/32 | 1.53509 | 1175.3827 | 1.53614 | 1181.1036 | 1.53720 | 1186.8384 |
| 7/16 | 1.53512 | 1175.5612 | 1.53618 | 1181.2826 | 1.53723 | 1187.0178 |
| 15/32 | 1.53516 | 1175.7398 | 1.53621 | 1181.4616 | 1.53726 | 1187.1973 |
| 1/2 | 1.53519 | 1175.9184 | 1.53624 | 1181.6406 | 1.53729 | 1187.3767 |
| 17/32 | 1.53522 | 1176.0970 | 1.53628 | 1181.8197 | 1.53733 | 1187.5562 |
| 9/16 | 1.53525 | 1176.2756 | 1.53631 | 1181.9987 | 1.53736 | 1187.7357 |
| 19/32 | 1.53529 | 1176.4543 | 1.53634 | 1182.1778 | 1.53739 | 1187.9152 |
| 5/8 | 1.53532 | 1176.6329 | 1.53637 | 1182.3569 | 1.53743 | 1188.0947 |
| 21/32 | 1.53535 | 1176.8116 | 1.53641 | 1182.5360 | 1.53746 | 1188.2743 |
| 11/16 | 1.53539 | 1176.9903 | 1.53644 | 1182.7151 | 1.53749 | 1188.4538 |
| 23/32 | 1.53542 | 1177.1690 | 1.53647 | 1182.8942 | 1.53752 | 1188.6334 |
| 3/4 | 1.53545 | 1177.3477 | 1.53651 | 1183.0734 | 1.53756 | 1188.8129 |
| 25/32 | 1.53549 | 1177.5264 | 1.53654 | 1183.2525 | 1.53759 | 1188.9925 |
| 13/16 | 1.53552 | 1177.7051 | 1.53657 | 1183.4317 | 1.53762 | 1189.1721 |
| 27/32 | 1.53555 | 1177.8838 | 1.53660 | 1183.6108 | 1.53766 | 1189.3517 |
| 7/8 | 1.53558 | 1178.0626 | 1.53664 | 1183.7900 | 1.53769 | 1189.5314 |
| 29/32 | 1.53562 | 1178.2414 | 1.53667 | 1183.9692 | 1.53772 | 1189.7110 |
| 15/16 | 1.53565 | 1178.4202 | 1.53670 | 1184.1485 | 1.53775 | 1189.8907 |
| 31/32 | 1.53568 | 1178.5990 | 1.53674 | 1184.3277 | 1.53779 | 1190.0703 |
| 1 | 1.53572 | 1178.7778 | 1.53677 | 1184.5069 | 1.53782 | 1190.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.53782 | 1190.2500 | 1.53887 | 1196.0069 | 1.53991 | 1201.7778 |
| 1/32 | 1.53785 | 1190.4297 | 1.53890 | 1196.1871 | 1.53994 | 1201.9583 |
| 1/16 | 1.53788 | 1190.6094 | 1.53893 | 1196.3672 | 1.53998 | 1202.1389 |
| 3/32 | 1.53792 | 1190.7891 | 1.53896 | 1196.5474 | 1.54001 | 1202.3195 |
| 1/8 | 1.53795 | 1190.9689 | 1.53900 | 1196.7275 | 1.54004 | 1202.5001 |
| 5/32 | 1.53798 | 1191.1486 | 1.53903 | 1196.9077 | 1.54008 | 1202.6807 |
| 3/16 | 1.53802 | 1191.3284 | 1.53906 | 1197.0879 | 1.54011 | 1202.8614 |
| 7/32 | 1.53805 | 1191.5081 | 1.53910 | 1197.2681 | 1.54014 | 1203.0420 |
| 1/4 | 1.53808 | 1191.6879 | 1.53913 | 1197.4484 | 1.54017 | 1203.2227 |
| 9/32 | 1.53811 | 1191.8677 | 1.53916 | 1197.6286 | 1.54021 | 1203.4033 |
| 5/16 | 1.53815 | 1192.0476 | 1.53919 | 1197.8088 | 1.54024 | 1203.5840 |
| 11/32 | 1.53818 | 1192.2274 | 1.53923 | 1197.9891 | 1.54027 | 1203.7647 |
| 3/8 | 1.53821 | 1192.4072 | 1.53926 | 1198.1694 | 1.54030 | 1203.9454 |
| 13/32 | 1.53825 | 1192.5871 | 1.53929 | 1198.3497 | 1.54034 | 1204.1261 |
| 7/16 | 1.53828 | 1192.7670 | 1.53932 | 1198.5300 | 1.54037 | 1204.3069 |
| 15/32 | 1.53831 | 1192.9468 | 1.53936 | 1198.7103 | 1.54040 | 1204.4876 |
| 1/2 | 1.53834 | 1193.1267 | 1.53939 | 1198.8906 | 1.54043 | 1204.6684 |
| 17/32 | 1.53838 | 1193.3066 | 1.53942 | 1199.0710 | 1.54047 | 1204.8492 |
| 9/16 | 1.53841 | 1193.4866 | 1.53946 | 1199.2513 | 1.54050 | 1205.0300 |
| 19/32 | 1.53844 | 1193.6665 | 1.53949 | 1199.4317 | 1.54053 | 1205.2108 |
| 5/8 | 1.53847 | 1193.8465 | 1.53952 | 1199.6121 | 1.54056 | 1205.3916 |
| 21/32 | 1 53851 | 1194.0264 | 1.53955 | 1199.7925 | 1.54060 | 1205.5724 |
| 11/16 | 1.53854 | 1194.2064 | 1.53959 | 1199.9729 | 1.54063 | 1205.7533 |
| 23/32 | 1.53857 | 1194.3864 | 1.53962 | 1200.1533 | 1.54066 | 1205.9341 |
| 3/4 | 1.53861 | 1194.5664 | 1.53965 | 1200.3338 | 1.54069 | 1206.1150 |
| 25/32 | 1.53864 | 1194.7464 | 1.53968 | 1200.5142 | 1.54073 | 1206.2959 |
| 13/16 | 1.53867 | 1194.9265 | 1.53972 | 1200.6947 | 1.54076 | 1206.4768 |
| 27/32 | 1.53870 | 1195.1065 | 1.53975 | 1200.8752 | 1.54079 | 1206.6577 |
| 7/8 | 1.53874 | 1195.2866 | 1.53978 | 1201.0557 | 1.54082 | 1206.8387 |
| 29/32 | 1.53877 | 1195.4666 | 1.53981 | 1201.2362 | 1.54086 | 1207.0196 |
| 15/16 | 1.53880 | 1195.6467 | 1.53985 | 1201.4167 | 1.54089 | 1207.2005 |
| 31/32 | 1.53883 | 1195.8268 | 1.53988 | 1201.5972 | 1.54092 | 1207.3815 |
| 1 | 1.53887 | 1196.0069 | 1.53991 | 1201.7778 | 1.54095 | 1207.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.54095 | 1207.5625 | 1.54200 | 1213.3611 | 1.54303 | 1219.1736 |
| 1/32 | 1.54099 | 1207.7435 | 1.54203 | 1213.5425 | 1.54307 | 1219.3555 |
| 1/16 | 1.54102 | 1207.9245 | 1.54206 | 1213.7240 | 1.54310 | 1219.5374 |
| 3/32 | 1.54105 | 1208.1055 | 1.54209 | 1213.9054 | 1.54313 | 1219.7192 |
| 1/8 | 1.54108 | 1208.2866 | 1.54212 | 1214.0869 | 1.54316 | 1219.9012 |
| 5/32 | 1.54112 | 1208.4676 | 1.54216 | 1214.2684 | 1.54319 | 1220.0831 |
| 3/16 | 1.54115 | 1208.6487 | 1.54219 | 1214.4499 | 1.54323 | 1220.2650 |
| 7/32 | 1.54118 | 1208.8298 | 1.54222 | 1214.6314 | 1.54326 | 1220.4469 |
| 1/4 | 1.54122 | 1209.0109 | 1.54225 | 1214.8129 | 1.54329 | 1220.6289 |
| 9/32 | 1.54125 | 1209.1920 | 1.54229 | 1214.9945 | 1.54332 | 1220.8109 |
| 5/16 | 1.54128 | 1209.3731 | 1.54232 | 1215.1760 | 1.54336 | 1220.9929 |
| 11/32 | 1.54131 | 1209.5542 | 1.54235 | 1215.3576 | 1.54339 | 1221.1749 |
| 3/8 | 1.54135 | 1209.7354 | 1.54238 | 1215.5392 | 1.54342 | 1221.3569 |
| 13/32 | 1.54138 | 1209.9165 | 1.54242 | 1215.7208 | 1.54345 | 1221.5389 |
| 7/16 | 1.54141 | 1210.0977 | 1.54245 | 1215.9024 | 1.54349 | 1221.7209 |
| 15/32 | 1.54144 | 1210.2789 | 1.54248 | 1216.0840 | 1.54352 | 1221.9030 |
| 1/2 | 1.54148 | 1210.4601 | 1.54251 | 1216.2656 | 1.54355 | 1222.0851 |
| 17/32 | 1.54151 | 1210.6413 | 1.54255 | 1216.4473 | 1.54358 | 1222.2672 |
| 9/16 | 1.54154 | 1210.8225 | 1.54258 | 1216.6289 | 1.54362 | 1222.4492 |
| 19/32 | 1.54157 | 1211.0088 | 1.54261 | 1216.8106 | 1.54365 | 1222.6314 |
| 5/8 | 1.54161 | 1211.1850 | 1.54264 | 1216.9923 | 1.54368 | 1222.8135 |
| 21/32 | 1.54164 | 1211.3663 | 1.54268 | 1217.1740 | 1.54371 | 1222.9956 |
| 11/16 | 1.54167 | 1211.5476 | 1.54271 | 1217.3557 | 1.54374 | 1223.1778 |
| 23/32 | 1.54170 | 1211.7288 | 1.54274 | 1217.5374 | 1.54378 | 1223.3599 |
| 3/4 | 1.54174 | 1211.9102 | 1.54277 | 1217.7192 | 1.54381 | 1223.5421 |
| 25/32 | 1.54177 | 1212.0915 | 1.54281 | 1217.9009 | 1.54384 | 1223.7243 |
| 13/16 | 1.54180 | 1212.2728 | 1.54284 | 1218.0827 | 1.54387 | 1223.9065 |
| 27/32 | 1.54183 | 1212.4542 | 1.54287 | 1218.2645 | 1.54391 | 1224.0887 |
| 7/8 | 1.54187 | 1212.6355 | 1.54290 | 1218.4463 | 1.54394 | 1224.2709 |
| 29/32 | 1.54190 | 1212.8169 | 1.54294 | 1218.6281 | 1.54397 | 1224.4532 |
| 15/16 | 1.54193 | 1212.9983 | 1.54297 | 1218.8099 | 1.54400 | 1224.6354 |
| 31/32 | 1.54196 | 1213.1797 | 1.54300 | 1218.9918 | 1.54404 | 1224.8177 |
| 1 | 1.54200 | 1213.3611 | 1.54303 | 1219.1736 | 1.54407 | 1225.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.54407 | 1225.0000 | 1.54510 | 1230.8403 | 1.54613 | 1236.6944 |
| 1/32 | 1.54410 | 1225.1823 | 1.54513 | 1231.0230 | 1.54616 | 1236.8776 |
| 1/16 | 1.54413 | 1225.3646 | 1.54517 | 1231.2058 | 1.54620 | 1237.0608 |
| 3/32 | 1.54416 | 1225.5469 | 1.54520 | 1231.3885 | 1.54623 | 1237.2440 |
| 1/8 | 1.54420 | 1225.7293 | 1.54523 | 1231.5713 | 1.54626 | 1237.4272 |
| 5/32 | 1.54423 | 1225.9116 | 1.54526 | 1231.7541 | 1.54629 | 1237.6104 |
| 3/16 | 1.54426 | 1226.0940 | 1.54529 | 1231.9369 | 1.54632 | 1237.7936 |
| 7/32 | 1.54429 | 1226.2764 | 1.54533 | 1232.1197 | 1.54636 | 1237.9769 |
| 1/4 | 1.54433 | 1226.4588 | 1.54536 | 1232.3025 | 1.54639 | 1238.1602 |
| 9/32 | 1.54436 | 1226.6412 | 1.54539 | 1232.4854 | 1.54642 | 1238.3434 |
| 5/16 | 1.54439 | 1226.8236 | 1.54542 | 1232.6682 | 1.54645 | 1238.5267 |
| 11/32 | 1.54442 | 1227.0060 | 1.54546 | 1232.8511 | 1.54648 | 1238.7100 |
| 3/8 | 1.54446 | 1227.1885 | 1.54549 | 1233.0340 | 1.54652 | 1238.8933 |
| 13/32 | 1.54449 | 1227.3709 | 1.54552 | 1233.2169 | 1.54655 | 1239.0767 |
| 7/16 | 1.54452 | 1227.5534 | 1.54555 | 1233.3998 | 1.54658 | 1239.2600 |
| 15/32 | 1.54455 | 1227.7359 | 1.54558 | 1233.5827 | 1.54661 | 1239.4434 |
| 1/2 | 1.54458 | 1227.9184 | 1.54562 | 1233.7656 | 1.54665 | 1239.6267 |
| 17/32 | 1.54462 | 1228.1009 | 1.54565 | 1233.9486 | 1.54668 | 1239.8101 |
| 9/16 | 1.54465 | 1228.2834 | 1.54568 | 1234.1315 | 1.54671 | 1239.9935 |
| 19/32 | 1.54468 | 1228.4660 | 1.54571 | 1234.3145 | 1.54674 | 1240.1769 |
| 5/8 | 1.54471 | 1228.6485 | 1.54575 | 1234.4975 | 1.54677 | 1240.3604 |
| 21/32 | 1.54475 | 1228.8311 | 1.54578 | 1234.6805 | 1.54681 | 1240.5438 |
| 11/16 | 1.54478 | 1229.0137 | 1.54581 | 1234.8635 | 1.54684 | 1240.7272 |
| 23/32 | 1.54481 | 1229.1963 | 1.54584 | 1235.0466 | 1.54687 | 1240.9107 |
| 3/4 | 1.54484 | 1229.3789 | 1.54587 | 1235.2296 | 1.54690 | 1241.0942 |
| 25/32 | 1.54488 | 1229.5615 | 1.54591 | 1235.4127 | 1.54693 | 1241.2777 |
| 13/16 | 1.54491 | 1229.7442 | 1.54594 | 1235.5957 | 1.54697 | 1241.4612 |
| 27/32 | 1.54494 | 1229.9268 | 1.54597 | 1235.7788 | 1.54700 | 1241.6447 |
| 7/8 | 1.54497 | 1230.1095 | 1.54600 | 1235.9619 | 1.54703 | 1241.8282 |
| 29/32 | 1.54500 | 1230.2922 | 1.54603 | 1236.1450 | 1.54706 | 1242.0118 |
| 15/16 | 1.54504 | 1230.4749 | 1.54607 | 1236.3282 | 1.54709 | 1242.1953 |
| 31/32 | 1.54507 | 1230.6576 | 1.54610 | 1236.5113 | 1.54713 | 1242.3789 |
| 1 | 1.54510 | 1230.8403 | 1.54613 | 1236.6944 | 1.54716 | 1242.5625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.54716 | 1242.5625 | 1.54818 | 1248.4444 | 1.54921 | 1254.3403 |
| 1/32 | 1.54719 | 1242.7461 | 1.54822 | 1248.6285 | 1.54924 | 1254.5247 |
| 1/16 | 1.54722 | 1242.9297 | 1.54825 | 1248.8125 | 1.54927 | 1254.7092 |
| 3/32 | 1.54726 | 1243.1133 | 1.54828 | 1248.9966 | 1.54930 | 1254.8937 |
| 1/8 | 1.54729 | 1243.2970 | 1.54831 | 1249.1807 | 1.54934 | 1255.0782 |
| 5/32 | 1.54732 | 1243.4806 | 1.54834 | 1249.3648 | 1.54937 | 1255.2628 |
| 3/16 | 1.54735 | 1243.6643 | 1.54838 | 1249.5489 | 1.54940 | 1255.4473 |
| 7/32 | 1.54738 | 1243.8480 | 1.54841 | 1249.7330 | 1.54943 | 1255.6318 |
| 1/4 | 1.54742 | 1244.0317 | 1.54844 | 1249.9171 | 1.54946 | 1255.8164 |
| 9/32 | 1.54745 | 1244.2154 | 1.54847 | 1250.1012 | 1.54949 | 1256.0010 |
| 5/16 | 1.54748 | 1244.3991 | 1.54850 | 1250.2854 | 1.54953 | 1256.1856 |
| 11/32 | 1.54751 | 1244.5829 | 1.54854 | 1250.4696 | 1.54956 | 1256.3702 |
| 3/8 | 1.54754 | 1244.7666 | 1.54857 | 1250.6538 | 1.54959 | 1256.5548 |
| 13/32 | 1.54758 | 1244.9504 | 1.54860 | 1250.8380 | 1.54962 | 1256.7394 |
| 7/16 | 1.54761 | 1245.1341 | 1.54863 | 1251.0222 | 1.54965 | 1256.9241 |
| 15/32 | 1.54764 | 1245.3179 | 1.54866 | 1251.2064 | 1.54969 | 1257.1087 |
| 1/2 | 1.54767 | 1245.5017 | 1.54870 | 1251.3906 | 1.54972 | 1257.2934 |
| 17/32 | 1.54770 | 1245.6856 | 1.54873 | 1251.5749 | 1.54975 | 1257.4781 |
| 9/16 | 1.54774 | 1245.8694 | 1.54876 | 1251.7591 | 1.54978 | 1257.6628 |
| 19/32 | 1.54777 | 1246.0532 | 1.54879 | 1251.9434 | 1.54981 | 1257.8475 |
| 5/8 | 1.54780 | 1246.2371 | 1.54882 | 1252.1277 | 1.54985 | 1258.0322 |
| 21/32 | 1.54783 | 1246.4210 | 1.54886 | 1252.3120 | 1.54988 | 1258.2170 |
| 11/16 | 1.54786 | 1246.6048 | 1.54889 | 1252.4963 | 1.54991 | 1258.4017 |
| 23/32 | 1.54790 | 1246.7887 | 1.54892 | 1252.6807 | 1.54994 | 1258.5865 |
| 3/4 | 1.54793 | 1246.9727 | 1.54895 | 1252.8650 | 1.54997 | 1258.7713 |
| 25/32 | 1.54796 | 1247.1566 | 1.54898 | 1253.0494 | 1.55001 | 1258.9561 |
| 13/16 | 1.54799 | 1247.3405 | 1.54902 | 1253.2338 | 1.55004 | 1259.1409 |
| 27/32 | 1.54802 | 1247.5245 | 1.54905 | 1253.4181 | 1.55007 | 1259.3257 |
| 7/8 | 1.54806 | 1247.7084 | 1.54908 | 1253.6025 | 1.55010 | 1259.5105 |
| 29/32 | 1.54809 | 1247.8924 | 1.54911 | 1253.7870 | 1.55013 | 1259.6954 |
| 15/16 | 1.54812 | 1248.0764 | 1.54914 | 1253.9714 | 1.55016 | 1259.8802 |
| 31/32 | 1.54815 | 1248.2604 | 1.54918 | 1254.1558 | 1.55020 | 1260.0651 |
| 1 | 1.54818 | 1248.4444 | 1.54921 | 1254.3403 | 1.55023 | 1260.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.55023 | 1260.2500 | 1.55125 | 1266.1736 | 1.55226 | 1272.1111 |
| 1/32 | 1.55026 | 1260.4349 | 1.55128 | 1266.3589 | 1.55229 | 1272.2969 |
| 1/16 | 1.55029 | 1260.6198 | 1.55131 | 1266.5443 | 1.55233 | 1272.4827 |
| 3/32 | 1.55032 | 1260.8047 | 1.55134 | 1266.7297 | 1.55236 | 1272.6685 |
| 1/8 | 1.55036 | 1260.9897 | 1.55137 | 1266.9150 | 1.55239 | 1272.8543 |
| 5/32 | 1.55039 | 1261.1746 | 1.55141 | 1267.1004 | 1.55242 | 1273.0401 |
| 3/16 | 1.55042 | 1261.3596 | 1.55144 | 1267.2858 | 1.55245 | 1273.2259 |
| 7/32 | 1.55045 | 1261.5446 | 1.55147 | 1267.4713 | 1.55248 | 1273.4118 |
| 1/4 | 1.55048 | 1261.7296 | 1.55150 | 1267.6567 | 1.55252 | 1273.5977 |
| 9/32 | 1.55051 | 1261.9146 | 1.55153 | 1267.8421 | 1.55255 | 1273.7835 |
| 5/16 | 1.55055 | 1262.0996 | 1.55156 | 1268.0276 | 1.55258 | 1273.9694 |
| 11/32 | 1.55058 | 1262.2847 | 1.55160 | 1268.2131 | 1.55261 | 1274.1553 |
| 3/8 | 1.55061 | 1262.4697 | 1.55163 | 1268.3985 | 1.55264 | 1274.3413 |
| 13/32 | 1.55064 | 1262.6548 | 1.55166 | 1268.5840 | 1.55267 | 1274.5272 |
| 7/16 | 1.55067 | 1262.8399 | 1.55169 | 1268.7696 | 1.55271 | 1274.7131 |
| 15/32 | 1.55071 | 1263.0250 | 1.55172 | 1268.9551 | 1.55274 | 1274.8991 |
| 1/2 | 1.55074 | 1263.2101 | 1.55175 | 1269.1406 | 1.55277 | 1275.0851 |
| 17/32 | 1.55077 | 1263.3952 | 1.55179 | 1269.3262 | 1.55280 | 1275.2711 |
| 9/16 | 1.55080 | 1263.5803 | 1.55182 | 1269.5117 | 1.55283 | 1275.4571 |
| 19/32 | 1.55083 | 1263.7655 | 1.55185 | 1269.6973 | 1.55286 | 1275.6431 |
| 5/8 | 1.55087 | 1263.9506 | 1.55188 | 1269.8829 | 1.55290 | 1275.8291 |
| 21/32 | 1.55090 | 1264.1358 | 1.55191 | 1270.0685 | 1.55293 | 1276.0151 |
| 11/16 | 1.55093 | 1264.3210 | 1.55195 | 1270.2542 | 1.55296 | 1276.2012 |
| 23/32 | 1.55096 | 1264.5062 | 1.55198 | 1270.4398 | 1.55299 | 1276.3873 |
| 3/4 | 1.55099 | 1264.6914 | 1.55201 | 1270.6254 | 1.55302 | 1276.5734 |
| 25/32 | 1.55102 | 1264.8766 | 1.55204 | 1270.8111 | 1.55305 | 1276.7594 |
| 13/16 | 1.55106 | 1265.0619 | 1.55207 | 1270.9968 | 1.55309 | 1276.9456 |
| 27/32 | 1.55109 | 1265.2471 | 1.55210 | 1271.1825 | 1.55312 | 1277.1317 |
| 7/8 | 1.55112 | 1265.4324 | 1.55214 | 1271.3682 | 1.55315 | 1277.3178 |
| 29/32 | 1.55115 | 1265.6177 | 1.55217 | 1271.5539 | 1.55318 | 1277.5040 |
| 15/16 | 1.55118 | 1265.8030 | 1.55220 | 1271.7396 | 1.55321 | 1277.6901 |
| 31/32 | 1.55121 | 1265.9883 | 1.55223 | 1271.9254 | 1.55324 | 1277.8763 |
| 1 | 1.55125 | 1266.1736 | 1.55226 | 1272.1111 | 1.55328 | 1278.0625 |

| Fractions of an Inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.55328 | 1278.0625 | 1.55429 | 1284.0278 | 1.55530 | 1290.0069 |
| 1/32 | 1.55331 | 1278.2487 | 1.55432 | 1284.2144 | 1.55533 | 1290.1940 |
| 1/16 | 1.55334 | 1278.4349 | 1.55435 | 1284.4011 | 1.55536 | 1290.3811 |
| 3/32 | 1.55337 | 1278.6212 | 1.55438 | 1284.5877 | 1.55539 | 1290.5682 |
| 1/8 | 1.55340 | 1278.8074 | 1.55441 | 1284.7744 | 1.55542 | 1290.7553 |
| 5/32 | 1.55343 | 1278.9937 | 1.55444 | 1284.9611 | 1.55545 | 1290.9424 |
| 3/16 | 1.55347 | 1279.1799 | 1.55448 | 1285.1478 | 1.55548 | 1291.1296 |
| 7/32 | 1.55350 | 1279.3662 | 1.55451 | 1285.3345 | 1.55552 | 1291.3167 |
| 1/4 | 1.55353 | 1279.5525 | 1.55454 | 1285.5213 | 1.55555 | 1291.5039 |
| 9/32 | 1.55356 | 1279.7388 | 1.55457 | 1285.7080 | 1.55558 | 1291.6911 |
| 5/16 | 1.55359 | 1279.9252 | 1.55460 | 1285.8948 | 1.55561 | 1291.8783 |
| 11/32 | 1.55362 | 1280.1115 | 1.55463 | 1286.0815 | 1.55564 | 1292.0655 |
| 3/8 | 1.55366 | 1280.2979 | 1.55467 | 1286.2683 | 1.55567 | 1292.2527 |
| 13/32 | 1.55369 | 1280.4842 | 1.55470 | 1286.4551 | 1.55571 | 1292.4399 |
| 7/16 | 1.55372 | 1280.6706 | 1.55473 | 1286.6420 | 1.55574 | 1292.6272 |
| 15/32 | 1.55375 | 1280.8570 | 1.55476 | 1286.8288 | 1.55577 | 1292.8145 |
| 1/2 | 1.55378 | 1281.0434 | 1.55479 | 1287.0156 | 1.55580 | 1293.0017 |
| 17/32 | 1.55381 | 1281.2298 | 1.55482 | 1287.2025 | 1.55583 | 1293.1890 |
| 9/16 | 1.55385 | 1281.4163 | 1.55485 | 1287.3894 | 1.55586 | 1293.3763 |
| 19/32 | 1.55388 | 1281.6027 | 1.55489 | 1287.5762 | 1.55589 | 1293.5636 |
| 5/8 | 1.55391 | 1281.7892 | 1.55492 | 1287.7631 | 1.55593 | 1293.7510 |
| 21/32 | 1.55394 | 1281.9756 | 1.55495 | 1287.9500 | 1.55596 | 1293.9383 |
| 11/16 | 1.55397 | 1282.1621 | 1.55498 | 1288.1370 | 1.55599 | 1294.1257 |
| 23/32 | 1.55400 | 1282.3486 | 1.55501 | 1288.3239 | 1.55602 | 1294.3130 |
| 3/4 | 1.55403 | 1282.5352 | 1.55504 | 1288.5109 | 1.55605 | 1294.5004 |
| 25/32 | 1.55407 | 1282.7217 | 1.55508 | 1288.6978 | 1.55608 | 1294.6878 |
| 13/16 | 1.55410 | 1282.9082 | 1.55511 | 1288.8848 | 1.55611 | 1294.8752 |
| 27/32 | 1.55413 | 1283.0948 | 1.55514 | 1289.0718 | 1.55615 | 1295.0627 |
| 7/8 | 1.55416 | 1283.2814 | 1.55517 | 1289.2588 | 1.55618 | 1295.2501 |
| 29/32 | 1.55419 | 1283.4679 | 1.55520 | 1289.4458 | 1.55621 | 1295.4376 |
| 15/16 | 1.55422 | 1283.6545 | 1.55523 | 1289.6328 | 1.55624 | 1295.6250 |
| 31/32 | 1.55426 | 1283.8412 | 1.55526 | 1289.8199 | 1.55627 | 1295.8125 |
| 1 | 1.55429 | 1284.0278 | 1.55530 | 1290.0069 | 1.55630 | 1296.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.55630 | 1296.0000 | 1.55731 | 1302.0069 | 1.55831 | 1308.0278 |
| 1/32 | 1.55633 | 1296.1875 | 1.55734 | 1302.1949 | 1.55834 | 1308.2162 |
| 1/16 | 1.55637 | 1296.3750 | 1.55737 | 1302.3828 | 1.55837 | 1308.4045 |
| 3/32 | 1.55640 | 1296.5626 | 1.55740 | 1302.5708 | 1.55840 | 1308.5929 |
| 1/8 | 1.55643 | 1296.7501 | 1.55743 | 1302.7588 | 1.55843 | 1308.7814 |
| 5/32 | 1.55646 | 1296.9377 | 1.55746 | 1302.9468 | 1.55846 | 1308.9698 |
| 3/16 | 1.55649 | 1297.1252 | 1.55749 | 1303.1348 | 1.55850 | 1309.1582 |
| 7/32 | 1.55652 | 1297.3128 | 1.55753 | 1303.3228 | 1.55853 | 1309.3467 |
| 1/4 | 1.55655 | 1297.5004 | 1.55756 | 1303.5109 | 1.55856 | 1309.5352 |
| 9/32 | 1.55659 | 1297.6880 | 1.55759 | 1303.6989 | 1.55859 | 1309.7236 |
| 5/16 | 1.55662 | 1297.8757 | 1.55762 | 1303.8870 | 1.55862 | 1309.9121 |
| 11/32 | 1.55665 | 1298.0633 | 1.55765 | 1304.0750 | 1.55865 | 1310.1006 |
| 3/8 | 1.55668 | 1298.2510 | 1.55768 | 1304.2631 | 1.55868 | 1310.2892 |
| 13/32 | 1.55671 | 1298.4386 | 1.55771 | 1304.4512 | 1.55871 | 1310.4777 |
| 7/16 | 1.55674 | 1298.6263 | 1.55775 | 1304.6393 | 1.55875 | 1310.6663 |
| 15/32 | 1.55677 | 1298.8140 | 1.55778 | 1304.8275 | 1.55878 | 1310.8548 |
| 1/2 | 1.55680 | 1299.0017 | 1.55781 | 1305.0156 | 1.55881 | 1311.0434 |
| 17/32 | 1.55684 | 1299.1895 | 1.55784 | 1305.2038 | 1.55884 | 1311.2320 |
| 9/16 | 1.55687 | 1299.3772 | 1.55787 | 1305.3920 | 1.55887 | 1311.4206 |
| 19/32 | 1.55690 | 1299.5649 | 1.55790 | 1305.5801 | 1.55890 | 1311.6092 |
| 5/8 | 1.55693 | 1299.7527 | 1.55793 | 1305.7683 | 1.55893 | 1311.7979 |
| 21/32 | 1.55696 | 1299.9405 | 1.55796 | 1305.9565 | 1.55896 | 1311.9865 |
| 11/16 | 1.55699 | 1300.1283 | 1.55800 | 1306.1448 | 1.55900 | 1312.1752 |
| 23/32 | 1.55702 | 1300.3161 | 1.55803 | 1306.3330 | 1.55903 | 1312.3638 |
| 3/4 | 1.55706 | 1300.5039 | 1.55806 | 1306.5213 | 1.55906 | 1312.5525 |
| 25/32 | 1.55709 | 1300.6917 | 1.55809 | 1306.7095 | 1.55909 | 1312.7412 |
| 13/16 | 1.55712 | 1300.8796 | 1.55812 | 1306.8978 | 1.55912 | 1312.9299 |
| 27/32 | 1.55715 | 1301.0674 | 1.55815 | 1307.0861 | 1.55915 | 1313.1187 |
| 7/8 | 1.55718 | 1301.2553 | 1.55818 | 1307.2744 | 1.55918 | 1313.3074 |
| 29/32 | 1.55721 | 1301.4432 | 1.55821 | 1307.4627 | 1.55921 | 1313.4962 |
| 15/16 | 1.55724 | 1301.6311 | 1.55825 | 1307.6511 | 1.55925 | 1313.6849 |
| 31/32 | 1.55728 | 1301.8190 | 1.55828 | 1307.8394 | 1.55928 | 1313.8737 |
| 1 | 1.55731 | 1302.0069 | 1.55831 | 1308.0278 | 1.55931 | 1314.0625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.55931 | 1314.0625 | 1.56031 | 1320.1111 | 1.56130 | 1326.1736 |
| 1/32 | 1.55934 | 1314.2513 | 1.56034 | 1320.3004 | 1.56133 | 1326.3633 |
| 1/16 | 1.55937 | 1314.4401 | 1.56037 | 1320.4896 | 1.56136 | 1326.5530 |
| 3/32 | 1.55940 | 1314.6290 | 1.56040 | 1320.6789 | 1.56139 | 1326.7427 |
| 1/8 | 1.55943 | 1314.8178 | 1.56043 | 1320.8682 | 1.56142 | 1326.9324 |
| 5/32 | 1.55946 | 1315.0067 | 1.56046 | 1321.0575 | 1.56146 | 1327.1221 |
| 3/16 | 1.55950 | 1315.1956 | 1.56049 | 1321.2468 | 1.56149 | 1327.3119 |
| 7/32 | 1.55953 | 1315.3844 | 1.56052 | 1321.4361 | 1.56152 | 1327.5016 |
| 1/4 | 1.55956 | 1315.5734 | 1.56055 | 1321.6254 | 1.56155 | 1327.6914 |
| 9/32 | 1.55959 | 1315.7623 | 1.56059 | 1321.8148 | 1.56158 | 1327.8812 |
| 5/16 | 1.55962 | 1315.9512 | 1.56062 | 1322.0042 | 1.56161 | 1328.0710 |
| 11/32 | 1.55965 | 1316.1401 | 1.56065 | 1322.1935 | 1.56164 | 1328.2608 |
| 3/8 | 1.55968 | 1316.3291 | 1.56068 | 1322.3829 | 1.56167 | 1328.4506 |
| 13/32 | 1.55971 | 1316.5181 | 1.56071 | 1322.5723 | 1.56170 | 1328.6405 |
| 7/16 | 1.55974 | 1316.7071 | 1.56074 | 1322.7617 | 1.56173 | 1328.8303 |
| 15/32 | 1.55978 | 1316.8961 | 1.56077 | 1322.9512 | 1.56177 | 1329.0202 |
| 1/2 | 1.55981 | 1317.0851 | 1.56080 | 1323.1406 | 1.56180 | 1329.2101 |
| 17/32 | 1.55984 | 1317.2741 | 1.56083 | 1323.3301 | 1.56183 | 1329.4000 |
| 9/16 | 1.55987 | 1317.4631 | 1.56087 | 1323.5196 | 1.56186 | 1329.5899 |
| 19/32 | 1.55990 | 1317.6522 | 1.56090 | 1323.7090 | 1.56189 | 1329.7798 |
| 5/8 | 1.55993 | 1317.8413 | 1.56093 | 1323.8985 | 1.56192 | 1329.9697 |
| 21/32 | 1.55996 | 1318.0303 | 1.56096 | 1324.0881 | 1.56195 | 1330.1597 |
| 11/16 | 1.55999 | 1318.2194 | 1.56099 | 1324.2776 | 1.56198 | 1330.3496 |
| 23/32 | 1.56003 | 1318.4085 | 1.56102 | 1324.4671 | 1.56201 | 1330.5396 |
| 3/4 | 1.56006 | 1318.5977 | 1.56105 | 1324.6567 | 1.56204 | 1330.7296 |
| 25/32 | 1.56009 | 1318.7868 | 1.56108 | 1324.8463 | 1.56208 | 1330.9196 |
| 13/16 | 1.56012 | 1318.9759 | 1.56111 | 1325.0358 | 1.56211 | 1331.1096 |
| 27/32 | 1.56015 | 1319.1651 | 1.56114 | 1325.2254 | 1.56214 | 1331.2996 |
| 7/8 | 1.56018 | 1319.3543 | 1.56118 | 1325.4150 | 1.56217 | 1331.4897 |
| 29/32 | 1.56021 | 1319.5435 | 1.56121 | 1325.6047 | 1.56220 | 1331.6797 |
| 15/16 | 1.56024 | 1319.7327 | 1.56124 | 1325.7943 | 1.56223 | 1331.8698 |
| 31/32 | 1.56027 | 1319.9219 | 1.56127 | 1325.9839 | 1.56226 | 1332.0599 |
| 1 | 1.56031 | 1320.1111 | 1.56130 | 1326.1736 | 1.56229 | 1332.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.56229 | 1332.2500 | 1.56328 | 1338.3403 | 1.56427 | 1344.4444 |
| 1/32 | 1.56232 | 1332.4401 | 1.56331 | 1338.5308 | 1.56430 | 1344.6354 |
| 1/16 | 1.56235 | 1332.6302 | 1.56335 | 1338.7214 | 1.56433 | 1344.8264 |
| 3/32 | 1.56239 | 1332.8204 | 1.56338 | 1338.9120 | 1.56436 | 1345.0174 |
| 1/8 | 1.56242 | 1333.0105 | 1.56341 | 1339.1025 | 1.56439 | 1345.2084 |
| 5/32 | 1.56245 | 1333.2007 | 1.56344 | 1339.2931 | 1.56443 | 1345.3995 |
| 3/16 | 1.56248 | 1333.3909 | 1.56347 | 1339.4838 | 1.56446 | 1345.5905 |
| 7/32 | 1.56251 | 1333.5811 | 1.56350 | 1339.6744 | 1.56449 | 1345.7816 |
| 1/4 | 1.56254 | 1333.7713 | 1.56353 | 1339.8650 | 1.56452 | 1345.9727 |
| 9/32 | 1.56257 | 1333.9615 | 1.56356 | 1340.0557 | 1.56455 | 1346.1637 |
| 5/16 | 1.56260 | 1334.1517 | 1.56359 | 1340.2463 | 1.56458 | 1346.3548 |
| 11/32 | 1.56263 | 1334.3420 | 1.56362 | 1340.4370 | 1.56461 | 1346.5460 |
| 3/8 | 1.56266 | 1334.5322 | 1.56365 | 1340.6277 | 1.56464 | 1346.7371 |
| 13/32 | 1.56270 | 1334.7225 | 1.56368 | 1340.8184 | 1.56467 | 1346.9282 |
| 7/16 | 1.56273 | 1334.9128 | 1.56372 | 1341.0091 | 1.56470 | 1347.1194 |
| 15/32 | 1.56276 | 1335.1031 | 1.56375 | 1341.1999 | 1.56473 | 1347.3106 |
| 1/2 | 1.56279 | 1335.2934 | 1.56378 | 1341.3906 | 1.56476 | 1347.5017 |
| 17/32 | 1.56282 | 1335.4837 | 1.56381 | 1341.5814 | 1.56480 | 1347.6929 |
| 9/16 | 1.56285 | 1335.6741 | 1.56384 | 1341.7722 | 1.56483 | 1347.8841 |
| 19/32 | 1.56288 | 1335.8644 | 1.56387 | 1341.9630 | 1.56486 | 1348.0754 |
| 5/8 | 1.56291 | 1336.0548 | 1.56390 | 1342.1538 | 1.56489 | 1348.2666 |
| 21/32 | 1 56294 | 1336.2452 | 1.56393 | 1342.3446 | 1.56492 | 1348.4579 |
| 11/16 | 1.56297 | 1336.4356 | 1.56396 | 1342.5354 | 1.56495 | 1348.6491 |
| 23/32 | 1.56300 | 1336.6260 | 1.56399 | 1342.7262 | 1.56498 | 1348.8404 |
| 3/4 | 1.56304 | 1336.8164 | 1.56402 | 1342.9171 | 1.56501 | 1349.0317 |
| 25/32 | 1.56307 | 1337.0068 | 1.56406 | 1343.1080 | 1.56504 | 1349.2230 |
| 13/16 | 1.56310 | 1337.1973 | 1.56409 | 1343.2989 | 1.56507 | 1349.4143 |
| 27/32 | 1.56313 | 1337.3878 | 1.56412 | 1343.4898 | 1.56510 | 1349.6056 |
| 7/8 | 1.56316 | 1337.5782 | 1.56415 | 1343.6807 | 1.56513 | 1349.7970 |
| 29/32 | 1.56319 | 1337.7687 | 1.56418 | 1343.8716 | 1.56517 | 1349.9883 |
| 15/16 | 1.56322 | 1337.9592 | 1.56421 | 1344.0625 | 1.56520 | 1350.1797 |
| 31/32 | 1.56325 | 1338.1497 | 1.56424 | 1344.2535 | 1.56523 | 1350.3711 |
| 1 | 1.56328 | 1338.3403 | 1.56427 | 1344.4444 | 1.56526 | 1350.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.56526 | 1350.5625 | 1.56624 | 1356.6944 | 1.56722 | 1362.8403 |
| 1/32 | 1.56529 | 1350.7539 | 1.56627 | 1356.8863 | 1.56725 | 1363.0326 |
| 1/16 | 1.56532 | 1350.9453 | 1.56630 | 1357.0782 | 1.56728 | 1363.2249 |
| 3/32 | 1.56535 | 1351.1368 | 1.56633 | 1357.2700 | 1.56731 | 1363.4172 |
| 1/8 | 1.56538 | 1351.3282 | 1.56636 | 1357.4619 | 1.56735 | 1363.6095 |
| 5/32 | 1.56541 | 1351.5197 | 1.56639 | 1357.6538 | 1.56738 | 1363.8018 |
| 3/16 | 1.56544 | 1351.7112 | 1.56643 | 1357.8457 | 1.56741 | 1363.9942 |
| 7/32 | 1.56547 | 1351.9027 | 1.56646 | 1358.0377 | 1.56744 | 1364.1865 |
| 1/4 | 1.56550 | 1352.0942 | 1.56649 | 1358.2296 | 1.56747 | 1364.3789 |
| 9/32 | 1.56553 | 1352.2857 | 1.56652 | 1358.4216 | 1.56750 | 1364.5713 |
| 5/16 | 1.56556 | 1352.4772 | 1.56655 | 1358.6135 | 1.56753 | 1364.7637 |
| 11/32 | 1.56560 | 1352.6688 | 1.56658 | 1358.8055 | 1.56756 | 1364.9561 |
| 3/8 | 1.56563 | 1352.8604 | 1.56661 | 1358.9975 | 1.56759 | 1365.1485 |
| 13/32 | 1.56566 | 1353.0519 | 1.56664 | 1359.1895 | 1.56762 | 1365.3410 |
| 7/16 | 1.56569 | 1353.2435 | 1.56667 | 1359.3815 | 1.56765 | 1365.5334 |
| 15/32 | 1.56572 | 1353.4351 | 1.56670 | 1359.5736 | 1.56768 | 1365.7259 |
| 1/2 | 1.56575 | 1353.6267 | 1.56673 | 1359.7656 | 1.56771 | 1365.9184 |
| 17/32 | 1.56578 | 1353.8184 | 1.56676 | 1359.9577 | 1.56774 | 1366.1109 |
| 9/16 | 1.56581 | 1354.0100 | 1.56679 | 1360.1498 | 1.56777 | 1366.3034 |
| 19/32 | 1.56584 | 1354.2017 | 1.56682 | 1360.3419 | 1.56780 | 1366.4959 |
| 5/8 | 1.56587 | 1354.3933 | 1.56685 | 1360.5340 | 1.56783 | 1366.6885 |
| 21/32 | 1.56590 | 1354.5850 | 1.56689 | 1360.7261 | 1.56787 | 1366.8810 |
| 11/16 | 1.56593 | 1354.7767 | 1.56692 | 1360.9182 | 1.56790 | 1367.0736 |
| 23/32 | 1.56596 | 1354.9684 | 1.56695 | 1361.1104 | 1.56793 | 1367.2662 |
| 3/4 | 1.56600 | 1355.1602 | 1.56698 | 1361.3025 | 1.56796 | 1367.4588 |
| 25/32 | 1.56603 | 1355.3519 | 1.56701 | 1361.4947 | 1.56799 | 1367.6514 |
| 13/16 | 1.56606 | 1355.5436 | 1.56704 | 1361.6869 | 1.56802 | 1367.8440 |
| 27/32 | 1.56609 | 1355.7354 | 1.56707 | 1361.8791 | 1.56805 | 1368.0366 |
| 7/8 | 1.56612 | 1355.9272 | 1.56710 | 1362.0713 | 1.56808 | 1368.2293 |
| 29/32 | 1.56615 | 1356.1190 | 1.56713 | 1362.2635 | 1.56811 | 1368.4219 |
| 15/16 | 1.56618 | 1356.3108 | 1.56716 | 1362.4558 | 1.56814 | 1368.6146 |
| 31/32 | 1.56621 | 1356.5026 | 1.56719 | 1362.6480 | 1.56817 | 1368.8073 |
| 1 | 1.56624 | 1356.6944 | 1.56722 | 1362.8403 | 1.56820 | 1369.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.56820 | 1369.0000 | 1.56918 | 1375.1736 | 1.57015 | 1381.3611 |
| 1/32 | 1.56823 | 1369.1927 | 1.56921 | 1375.3668 | 1.57018 | 1381.5547 |
| 1/16 | 1.56826 | 1369.3854 | 1.56924 | 1375.5599 | 1.57021 | 1381.7483 |
| 3/32 | 1.56829 | 1369.5782 | 1.56927 | 1375.7531 | 1.57024 | 1381.9419 |
| 1/8 | 1.56832 | 1369.7709 | 1.56930 | 1375.9463 | 1.57028 | 1382.1355 |
| 5/32 | 1.56835 | 1369.9637 | 1.56933 | 1376.1395 | 1.57031 | 1382.3292 |
| 3/16 | 1.56839 | 1370.1565 | 1.56936 | 1376.3327 | 1.57034 | 1382.5228 |
| 7/32 | 1.56842 | 1370.3493 | 1.56939 | 1376.5259 | 1.57037 | 1382.7165 |
| 1/4 | 1.56845 | 1370.5421 | 1.56942 | 1376.7192 | 1.57040 | 1382.9102 |
| 9/32 | 1.56848 | 1370.7349 | 1.56945 | 1376.9124 | 1.57043 | 1383.1038 |
| 5/16 | 1.56851 | 1370.9278 | 1.56948 | 1377.1057 | 1.57046 | 1383.2976 |
| 11/32 | 1.56854 | 1371.1206 | 1.56951 | 1377.2990 | 1.57049 | 1383.4913 |
| 3/8 | 1.56857 | 1371.3135 | 1.56954 | 1377.4923 | 1.57052 | 1383.6850 |
| 13/32 | 1.56860 | 1371.5064 | 1.56958 | 1377.6856 | 1.57055 | 1383.8788 |
| 7/16 | 1.56863 | 1371.6992 | 1.56961 | 1377.8789 | 1.57058 | 1384.0725 |
| 15/32 | 1.56866 | 1371.8922 | 1.56964 | 1378.0723 | 1.57061 | 1384.2663 |
| 1/2 | 1.56869 | 1372.0851 | 1.56967 | 1378.2656 | 1.57064 | 1384.4601 |
| 17/32 | 1.56872 | 1372.2780 | 1.56970 | 1378.4590 | 1.57067 | 1384.6539 |
| 9/16 | 1.56875 | 1372.4709 | 1.56973 | 1378.6524 | 1.57070 | 1384.8477 |
| 19/32 | 1.56878 | 1372.6639 | 1.56976 | 1378.8458 | 1.57073 | 1385.0415 |
| 5/8 | 1.56881 | 1372.8569 | 1.56979 | 1379.0392 | 1.57076 | 1385.2354 |
| 21/32 | 1.56884 | 1373.0499 | 1.56982 | 1379.2326 | 1.57079 | 1385.4292 |
| 11/16 | 1.56887 | 1373.2429 | 1.56985 | 1379.4260 | 1.57082 | 1385.6231 |
| 23/32 | 1.56890 | 1373.4359 | 1.56988 | 1379.6195 | 1.57085 | 1385.8170 |
| 3/4 | 1.56893 | 1373.6289 | 1.56991 | 1379.8129 | 1.57088 | 1386.0109 |
| 25/32 | 1.56897 | 1373.8219 | 1.56994 | 1380.0064 | 1.57091 | 1386.2048 |
| 13/16 | 1.56900 | 1374.0150 | 1.56997 | 1380.1999 | 1.57094 | 1386.3987 |
| 27/32 | 1.56903 | 1374.2081 | 1.57000 | 1380.3934 | 1.57097 | 1386.5926 |
| 7/8 | 1.56906 | 1374.4011 | 1.57003 | 1380.5869 | 1.57100 | 1386.7866 |
| 29/32 | 1.56909 | 1374.5942 | 1.57006 | 1380.7804 | 1.57104 | 1386.9805 |
| 15/16 | 1.56912 | 1374.7874 | 1.57009 | 1380.9740 | 1.57107 | 1387.1745 |
| 31/32 | 1.56915 | 1374.9805 | 1.57012 | 1381.1675 | 1.57110 | 1387.3685 |
| 1 | 1.56918 | 1375.1736 | 1.57015 | 1381.3611 | 1.57113 | 1387.5625 |

| Fractions of an inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.57113 | 1387.5625 | 1.57210 | 1393.7778 | 1.57307 | 1400.0069 |
| 1/32 | 1.57116 | 1387.7565 | 1.57213 | 1393.9722 | 1.57310 | 1400.2018 |
| 1/16 | 1.57119 | 1387.9505 | 1.57216 | 1394.1667 | 1.57313 | 1400.3967 |
| 3/32 | 1.57122 | 1388.1446 | 1.57219 | 1394.3612 | 1.57316 | 1400.5916 |
| 1/8 | 1.57125 | 1388.3387 | 1.57222 | 1394.5557 | 1.57319 | 1400.7866 |
| 5/32 | 1.57128 | 1388.5327 | 1.57225 | 1394.7502 | 1.57322 | 1400.9815 |
| 3/16 | 1.57131 | 1388.7268 | 1.57228 | 1394.9447 | 1.57325 | 1401.1765 |
| 7/32 | 1.57134 | 1388.9209 | 1.57231 | 1395.1392 | 1.57328 | 1401.3714 |
| 1/4 | 1.57137 | 1389.1150 | 1.57234 | 1395.3338 | 1.57331 | 1401.5664 |
| 9/32 | 1.57140 | 1389.3091 | 1.57237 | 1395.5283 | 1.57334 | 1401.7614 |
| 5/16 | 1.57143 | 1389.5033 | 1.57240 | 1395.7229 | 1.57337 | 1401.9564 |
| 11/32 | 1.57146 | 1389.6974 | 1.57243 | 1395.9175 | 1.57340 | 1402.1514 |
| 3/8 | 1.57149 | 1389.8916 | 1.57246 | 1396.1121 | 1.57343 | 1402.3465 |
| 13/32 | 1.57152 | 1390.0858 | 1.57249 | 1396.3067 | 1.57346 | 1402.5415 |
| 7/16 | 1.57155 | 1390.2800 | 1.57252 | 1396.5013 | 1.57349 | 1402.7366 |
| 15/32 | 1.57158 | 1390.4742 | 1.57255 | 1396.6960 | 1.57352 | 1402.9316 |
| 1/2 | 1.57161 | 1390.6684 | 1.57258 | 1396.8906 | 1.57355 | 1403.1267 |
| 17/32 | 1.57164 | 1390.8626 | 1.57261 | 1397.0853 | 1.57358 | 1403.3218 |
| 9/16 | 1.57167 | 1391.0569 | 1.57264 | 1397.2800 | 1.57361 | 1403.5170 |
| 19/32 | 1.57170 | 1391.2511 | 1.57267 | 1397.4747 | 1.57364 | 1403.7121 |
| 5/8 | 1.57173 | 1391.4454 | 1.57270 | 1397.6694 | 1.57367 | 1403.9072 |
| 21/32 | 1.57176 | 1391.6397 | 1.57273 | 1397.8641 | 1.57370 | 1404.1024 |
| 11/16 | 1.57179 | 1391.8340 | 1.57276 | 1398.0588 | 1.57373 | 1404.2976 |
| 23/32 | 1.57182 | 1392.0283 | 1.57279 | 1398.2536 | 1.57376 | 1404.4927 |
| 3/4 | 1.57185 | 1392.2227 | 1.57282 | 1398.4484 | 1.57379 | 1404.6879 |
| 25/32 | 1.57188 | 1392.4170 | 1.57285 | 1398.6431 | 1.57382 | 1404.8831 |
| 13/16 | 1.57191 | 1392.6114 | 1.57288 | 1398.8379 | 1.57385 | 1405.0784 |
| 27/32 | 1.57195 | 1392.8057 | 1.57291 | 1399.0327 | 1.57388 | 1405.2736 |
| 7/8 | 1.57198 | 1393.0001 | 1.57294 | 1399.2275 | 1.57391 | 1405.4689 |
| 29/32 | 1.57201 | 1393.1945 | 1.57297 | 1399.4224 | 1.57394 | 1405.6641 |
| 15/16 | 1.57204 | 1393.3889 | 1.57300 | 1399.6172 | 1.57397 | 1405.8594 |
| 31/32 | 1.57207 | 1393.5833 | 1.57303 | 1399.8121 | 1.57400 | 1406.0547 |
| 1 | 1.57210 | 1393.7778 | 1.57307 | 1400.0069 | 1.57403 | 1406.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.57403 | 1406.2500 | 1.57500 | 1412.5069 | 1.57596 | 1418.7778 |
| 1/32 | 1.57406 | 1406.4453 | 1.57503 | 1412.7027 | 1.57599 | 1418.9740 |
| 1/16 | 1.57409 | 1406.6407 | 1.57506 | 1412.8985 | 1.57602 | 1419.1702 |
| 3/32 | 1.57412 | 1406.8360 | 1.57509 | 1413.0942 | 1.57605 | 1419.3664 |
| 1/8 | 1.57415 | 1407.0314 | 1.57512 | 1413.2900 | 1.57608 | 1419.5626 |
| 5/32 | 1.57418 | 1407.2267 | 1.57515 | 1413.4858 | 1.57611 | 1419.7589 |
| 3/16 | 1.57421 | 1407.4221 | 1.57518 | 1413.6817 | 1.57614 | 1419.9551 |
| 7/32 | 1.57424 | 1407.6175 | 1.57521 | 1413.8775 | 1.57617 | 1420.1514 |
| 1/4 | 1.57427 | 1407.8129 | 1.57524 | 1414.0734 | 1.57620 | 1420.3477 |
| 9/32 | 1.57430 | 1408.0084 | 1.57527 | 1414.2692 | 1.57623 | 1420.5440 |
| 5/16 | 1.57433 | 1408.2038 | 1.57530 | 1414.4651 | 1.57626 | 1420.7403 |
| 11/32 | 1.57436 | 1408.3993 | 1.57533 | 1414.6610 | 1.57629 | 1420.9366 |
| 3/8 | 1.57439 | 1408.5947 | 1.57536 | 1414.8569 | 1.57632 | 1421.1329 |
| 13/32 | 1.57442 | 1408.7902 | 1.57539 | 1415.0528 | 1.57635 | 1421.3293 |
| 7/16 | 1.57445 | 1408.9857 | 1.57542 | 1415.2487 | 1.57638 | 1421.5256 |
| 15/32 | 1.57448 | 1409.1812 | 1.57545 | 1415.4447 | 1.57641 | 1421.7220 |
| 1/2 | 1.57451 | 1409.3767 | 1.57548 | 1415.6406 | 1.57644 | 1421.9184 |
| 17/32 | 1.57454 | 1409.5723 | 1.57551 | 1415.8366 | 1.57647 | 1422.1148 |
| 9/16 | 1.57457 | 1409.7678 | 1.57554 | 1416.0326 | 1.57650 | 1422.3112 |
| 19/32 | 1.57460 | 1409.9634 | 1.57557 | 1416.2286 | 1.57653 | 1422.5077 |
| 5/8 | 1.57463 | 1410.1590 | 1.57560 | 1416.4246 | 1.57656 | 1422.7041 |
| 21/32 | 1.57466 | 1410.3546 | 1.57563 | 1416.6206 | 1.57659 | 1422.9006 |
| 11/16 | 1.57469 | 1410.5502 | 1.57566 | 1416.8167 | 1.57662 | 1423.0970 |
| 23/32 | 1.57472 | 1410.7458 | 1.57569 | 1417.0127 | 1.57665 | 1423.2935 |
| 3/4 | 1.57475 | 1410.9414 | 1.57572 | 1417.2088 | 1.57668 | 1423.4900 |
| 25/32 | 1.57478 | 1411.1371 | 1.57575 | 1417.4048 | 1.57671 | 1423.6865 |
| 13/16 | 1.57481 | 1411.3327 | 1.57578 | 1417.6009 | 1.57674 | 1423.8831 |
| 27/32 | 1.57484 | 1411.5284 | 1.57581 | 1417.7970 | 1.57677 | 1424.0796 |
| 7/8 | 1.57487 | 1411.7241 | 1.57584 | 1417.9932 | 1.57680 | 1424.2762 |
| 29/32 | 1.57491 | 1411.9198 | 1.57587 | 1418.1893 | 1.57683 | 1424.4727 |
| 15/16 | 1.57494 | 1412.1155 | 1.57590 | 1418.3854 | 1.57686 | 1424.6693 |
| 31/32 | 1.57497 | 1412.3112 | 1.57593 | 1418.5816 | 1.57689 | 1424.8659 |
| 1 | 1.57500 | 1412.5069 | 1.57596 | 1418.7778 | 1.57692 | 1425.0625 |

| Fractions of an Inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.57692 | 1425.0625 | 1.57787 | 1431.3611 | 1.57883 | 1437.6736 |
| 1/32 | 1.57695 | 1425.2591 | 1.57790 | 1431.5582 | 1.57886 | 1437.8711 |
| 1/16 | 1.57698 | 1425.4558 | 1.57793 | 1431.7552 | 1.57889 | 1438.0686 |
| 3/32 | 1.57701 | 1425.6524 | 1.57796 | 1431.9523 | 1.57892 | 1438.2661 |
| 1/8 | 1.57704 | 1425.8491 | 1.57799 | 1432.1494 | 1.57895 | 1438.4637 |
| 5/32 | 1.57707 | 1426.0457 | 1.57802 | 1432.3465 | 1.57898 | 1438.6612 |
| 3/16 | 1.57710 | 1426.2424 | 1.57805 | 1432.5436 | 1.57901 | 1438.8588 |
| 7/32 | 1.57713 | 1426.4391 | 1.57808 | 1432.7408 | 1.57904 | 1439.0563 |
| 1/4 | 1.57716 | 1426.6359 | 1.57811 | 1432.9379 | 1.57907 | 1439.2539 |
| 9/32 | 1.57719 | 1426.8326 | 1.57814 | 1433.1351 | 1.57910 | 1439.4515 |
| 5/16 | 1.57722 | 1427.0293 | 1.57817 | 1433.3323 | 1.57913 | 1439.6491 |
| 11/32 | 1.57725 | 1427.2261 | 1.57820 | 1433.5295 | 1.57916 | 1439.8467 |
| 3/8 | 1.57728 | 1427.4229 | 1.57823 | 1433.7267 | 1.57919 | 1440.0444 |
| 13/32 | 1.57731 | 1427.6196 | 1.57826 | 1433.9239 | 1.57922 | 1440.2420 |
| 7/16 | 1.57734 | 1427.8164 | 1.57829 | 1434.1211 | 1.57925 | 1440.4397 |
| 15/32 | 1.57737 | 1428.0132 | 1.57832 | 1434.3184 | 1.57928 | 1440.6374 |
| 1/2 | 1.57740 | 1428.2101 | 1.57835 | 1434.5156 | 1.57931 | 1440.8351 |
| 17/32 | 1.57743 | 1428.4069 | 1.57838 | 1434.7129 | 1.57934 | 1441.0328 |
| 9/16 | 1.57746 | 1428.6038 | 1.57841 | 1434.9102 | 1.57937 | 1441.2305 |
| 19/32 | 1.57749 | 1428.8006 | 1.57844 | 1435.1075 | 1.57940 | 1441.4282 |
| 5/8 | 1.57752 | 1428.9975 | 1.57847 | 1435.3048 | 1.57943 | 1441.6260 |
| 21/32 | 1.57755 | 1429.1944 | 1.57850 | 1435.5021 | 1.57946 | 1441.8237 |
| 11/16 | 1.57758 | 1429.3913 | 1.57853 | 1435.6995 | 1.57949 | 1442.0215 |
| 23/32 | 1.57761 | 1429.5882 | 1.57856 | 1435.8968 | 1.57952 | 1442.2193 |
| 3/4 | 1.57764 | 1429.7852 | 1.57859 | 1436.0942 | 1.57955 | 1442.4171 |
| 25/32 | 1.57767 | 1429.9821 | 1.57862 | 1436.2916 | 1.57958 | 1442.6149 |
| 13/16 | 1.57770 | 1430.1791 | 1.57865 | 1436.4890 | 1.57960 | 1442.8127 |
| 27/32 | 1.57773 | 1430.3760 | 1.57868 | 1436.6864 | 1.57963 | 1443.0106 |
| 7/8 | 1.57776 | 1430.5730 | 1.57871 | 1436.8838 | 1.57966 | 1443.2084 |
| 29/32 | 1.57778 | 1430.7700 | 1.57874 | 1437.0812 | 1.57969 | 1443.4063 |
| 15/16 | 1.57781 | 1430.9670 | 1.57877 | 1437.2787 | 1.57972 | 1443.6042 |
| 31/32 | 1.57784 | 1431.1641 | 1.57880 | 1437.4761 | 1.57975 | 1443.8021 |
| 1 | 1.57787 | 1431.3611 | 1.57883 | 1437.6736 | 1.57978 | 1444.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.57978 | 1444.0000 | 1.58073 | 1450.3403 | 1.58168 | 1456.6944 |
| 1/32 | 1.57981 | 1444.1979 | 1.58076 | 1450.5386 | 1.58171 | 1456.8932 |
| 1/16 | 1.57984 | 1444.3959 | 1.58079 | 1450.7370 | 1.58174 | 1457.0920 |
| 3/32 | 1.57987 | 1444.5938 | 1.58082 | 1450.9354 | 1.58177 | 1457.2909 |
| 1/8 | 1.57990 | 1444.7918 | 1.58085 | 1451.1338 | 1.58180 | 1457.4897 |
| 5/32 | 1.57993 | 1444.9898 | 1.58088 | 1451.3322 | 1.58183 | 1457.6885 |
| 3/16 | 1.57996 | 1445.1877 | 1.58091 | 1451.5306 | 1.58186 | 1457.8874 |
| 7/32 | 1.57999 | 1445.3857 | 1.58094 | 1451.7291 | 1.58189 | 1458.0863 |
| 1/4 | 1.58002 | 1445.5838 | 1.58097 | 1451.9275 | 1.58192 | 1458.2852 |
| 9/32 | 1.58005 | 1445.7818 | 1.58100 | 1452.1260 | 1.58195 | 1458.4841 |
| 5/16 | 1.58008 | 1445.9798 | 1.58103 | 1452.3245 | 1.58198 | 1458.6830 |
| 11/32 | 1.58011 | 1446.1779 | 1.58106 | 1452.5230 | 1.58201 | 1458.8819 |
| 3/8 | 1.58014 | 1446.3760 | 1.58109 | 1452.7215 | 1.58204 | 1459.0808 |
| 13/32 | 1.58017 | 1446.5741 | 1.58112 | 1452.9200 | 1.58207 | 1459.2798 |
| 7/16 | 1.58020 | 1446.7722 | 1.58115 | 1453.1185 | 1.58210 | 1459.4788 |
| 15/32 | 1.58023 | 1446.9703 | 1.58118 | 1453.3171 | 1.58213 | 1459.6777 |
| 1/2 | 1.58026 | 1447.1684 | 1.58121 | 1453.5156 | 1.58216 | 1459.8767 |
| 17/32 | 1.58029 | 1447.3665 | 1.58124 | 1453.7142 | 1.58219 | 1460.0757 |
| 9/16 | 1.58032 | 1447.5647 | 1.58127 | 1453.9128 | 1.58222 | 1460.2748 |
| 19/32 | 1.58035 | 1447.7629 | 1.58130 | 1454.1114 | 1.58225 | 1460.4738 |
| 5/8 | 1.58038 | 1447.9610 | 1.58133 | 1454.3100 | 1.58228 | 1460.6729 |
| 21/32 | 1.58041 | 1448.1592 | 1.58136 | 1454.5086 | 1.58231 | 1460.8719 |
| 11/16 | 1.58044 | 1448.3574 | 1.58139 | 1454.7073 | 1.58234 | 1461.0710 |
| 23/32 | 1.58047 | 1448.5557 | 1.58142 | 1454.9059 | 1.58237 | 1461.2701 |
| 3/4 | 1.58050 | 1448.7539 | 1.58145 | 1455.1046 | 1.58239 | 1461.4692 |
| 25/32 | 1.58053 | 1448.9522 | 1.58148 | 1455.3033 | 1.58242 | 1461.6683 |
| 13/16 | 1.58056 | 1449.1504 | 1.58151 | 1455.5020 | 1.58245 | 1461.8674 |
| 27/32 | 1.58059 | 1449.3487 | 1.58154 | 1455.7007 | 1.58248 | 1462.0666 |
| 7/8 | 1.58062 | 1449.5470 | 1.58157 | 1455.8994 | 1.58251 | 1462.2657 |
| 29/32 | 1.58065 | 1449.7453 | 1.58160 | 1456.0982 | 1.58254 | 1462.4649 |
| 15/16 | 1.58068 | 1449.9436 | 1.58162 | 1456.2969 | 1.58257 | 1462.6641 |
| 31/32 | 1.58071 | 1450.1419 | 1.58165 | 1456.4957 | 1.58260 | 1462.8633 |
| 1 | 1.58073 | 1450.3403 | 1.58168 | 1456.6944 | 1.58263 | 1463.0625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.58263 | 1463.0625 | 1.58358 | 1469.4444 | 1.58452 | 1475.8403 |
| 1/32 | 1.58266 | 1463.2617 | 1.58361 | 1469.6441 | 1.58455 | 1476.0404 |
| 1/16 | 1.58269 | 1463.4610 | 1.58364 | 1469.8438 | 1.58458 | 1476.2405 |
| 3/32 | 1.58272 | 1463.6602 | 1.58367 | 1470.0435 | 1.58461 | 1476.4406 |
| 1/8 | 1.58275 | 1463.8595 | 1.58369 | 1470.2432 | 1.58464 | 1476.6407 |
| 5/32 | 1.58278 | 1464.0588 | 1.58372 | 1470.4429 | 1.58467 | 1476.8409 |
| 3/16 | 1.58281 | 1464.2581 | 1.58375 | 1470.6426 | 1.58470 | 1477.0410 |
| 7/32 | 1.58284 | 1464.4574 | 1.58378 | 1470.8423 | 1.58473 | 1477.2412 |
| 1/4 | 1.58287 | 1464.6567 | 1.58381 | 1471.0421 | 1.58476 | 1477.4414 |
| 9/32 | 1.58290 | 1464.8560 | 1.58384 | 1471.2419 | 1.58478 | 1477.6416 |
| 5/16 | 1.58293 | 1465.0554 | 1.58387 | 1471.4417 | 1.58481 | 1477.8418 |
| 11/32 | 1.58296 | 1465.2547 | 1.58390 | 1471.6414 | 1.58484 | 1478.0421 |
| 3/8 | 1.58299 | 1465.4541 | 1.58393 | 1471.8413 | 1.58487 | 1478.2423 |
| 13/32 | 1.58302 | 1465.6535 | 1.58396 | 1472.0411 | 1.58490 | 1478.4426 |
| 7/16 | 1.58305 | 1465.8529 | 1.58399 | 1472.2409 | 1.58493 | 1478.6428 |
| 15/32 | 1.58307 | 1466.0523 | 1.58402 | 1472.4408 | 1.58496 | 1478.8431 |
| 1/2 | 1.58310 | 1466.2517 | 1.58405 | 1472.6406 | 1.58499 | 1479.0434 |
| 17/32 | 1.58313 | 1466.4512 | 1.58408 | 1472.8405 | 1.58502 | 1479.2437 |
| 9/16 | 1.58316 | 1466.6506 | 1.58411 | 1473.0404 | 1.58505 | 1479.4440 |
| 19/32 | 1.58319 | 1466.8501 | 1.58414 | 1473.2403 | 1.58508 | 1479.6444 |
| 5/8 | 1.58322 | 1467.0496 | 1.58417 | 1473.4402 | 1.58511 | 1479.8447 |
| 21/32 | 1.58325 | 1467.2491 | 1.58420 | 1473.6401 | 1.58514 | 1480.0451 |
| 11/16 | 1.58328 | 1467.4486 | 1.58423 | 1473.8401 | 1.58517 | 1480.2455 |
| 23/32 | 1.58331 | 1467.6481 | 1.58425 | 1474.0400 | 1.58520 | 1480.4459 |
| 3/4 | 1.58334 | 1467.8477 | 1.58428 | 1474.2400 | 1.58523 | 1480.6463 |
| 25/32 | 1.58337 | 1468.0472 | 1.58431 | 1474.4400 | 1.58526 | 1480.8467 |
| 13/16 | 1.58340 | 1468.2468 | 1.58434 | 1474.6400 | 1.58528 | 1481.0471 |
| 27/32 | 1.58343 | 1468.4464 | 1.58437 | 1474.8400 | 1.58531 | 1481.2476 |
| 7/8 | 1.58346 | 1468.6459 | 1.58440 | 1475.0400 | 1.58534 | 1481.4480 |
| 29/32 | 1.58349 | 1468.8455 | 1.58443 | 1475.2401 | 1.58537 | 1481.6485 |
| 15/16 | 1.58352 | 1469.0452 | 1.58446 | 1475.4401 | 1.58540 | 1481.8490 |
| 31/32 | 1.58355 | 1469.2448 | 1.58449 | 1475.6402 | 1.58543 | 1482.0495 |
| 1 | 1.58358 | 1469.4444 | 1.58452 | 1475.8403 | 1.58546 | 1482.2500 |

| Fractions of an Inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.58546 | 1482.2500 | 1.58640 | 1488.6736 | 1.58734 | 1495.1111 |
| 1/32 | 1.58549 | 1482.4505 | 1.58643 | 1488.8746 | 1.58737 | 1495.3125 |
| 1/16 | 1.58552 | 1482.6511 | 1.58646 | 1489.0755 | 1.58740 | 1495.5139 |
| 3/32 | 1.58555 | 1482.8516 | 1.58649 | 1489.2765 | 1.58742 | 1495.7153 |
| 1/8 | 1.58558 | 1483.0522 | 1.58652 | 1489.4775 | 1.58745 | 1495.9168 |
| 5/32 | 1.58561 | 1483.2528 | 1.58655 | 1489.6786 | 1.58748 | 1496.1182 |
| 3/16 | 1.58564 | 1483.4534 | 1.58658 | 1489.8796 | 1.58751 | 1496.3197 |
| 7/32 | 1.58567 | 1483.6540 | 1.58660 | 1490.0806 | 1.58754 | 1496.5212 |
| 1/4 | 1.58570 | 1483.8546 | 1.58663 | 1490.2817 | 1.58757 | 1496.7227 |
| 9/32 | 1.58573 | 1484.0552 | 1.58666 | 1490.4828 | 1.58760 | 1496.9242 |
| 5/16 | 1.58575 | 1484.2559 | 1.58669 | 1490.6838 | 1.58763 | 1497.1257 |
| 11/32 | 1.58578 | 1484.4565 | 1.58672 | 1490.8849 | 1.58766 | 1497.3272 |
| 3/8 | 1.58581 | 1484.6572 | 1.58675 | 1491.0860 | 1.58769 | 1497.5288 |
| 13/32 | 1.58584 | 1484.8579 | 1.58678 | 1491.2872 | 1.58772 | 1497.7303 |
| 7/16 | 1.58587 | 1485.0586 | 1.58681 | 1491.4883 | 1.58775 | 1497.9319 |
| 15/32 | 1.58590 | 1485.2593 | 1.58684 | 1491.6895 | 1.58778 | 1498.1335 |
| 1/2 | 1.58593 | 1485.4601 | 1.58687 | 1491.8906 | 1.58780 | 1498.3351 |
| 17/32 | 1.58596 | 1485.6608 | 1.58690 | 1492.0918 | 1.58783 | 1498.5367 |
| 9/16 | 1.58599 | 1485.8616 | 1.58693 | 1492.2930 | 1.58786 | 1498.7383 |
| 19/32 | 1.58602 | 1486.0623 | 1.58696 | 1492.4942 | 1.58789 | 1498.9399 |
| 5/8 | 1.58605 | 1486.2631 | 1.58699 | 1492.6954 | 1.58792 | 1499.1416 |
| 21/32 | 1.58608 | 1486.4639 | 1.58701 | 1492.8967 | 1.58795 | 1499.3433 |
| 11/16 | 1.58611 | 1486.6647 | 1.58704 | 1493.0979 | 1.58798 | 1499.5449 |
| 23/32 | 1.58614 | 1486.8656 | 1.58707 | 1493.2992 | 1.58801 | 1499.7466 |
| 3/4 | 1.58617 | 1487.0664 | 1.58710 | 1493.5004 | 1.58804 | 1499.9484 |
| 25/32 | 1.58619 | 1487.2673 | 1.58713 | 1493.7017 | 1.58807 | 1500.1501 |
| 13/16 | 1.58622 | 1487.4681 | 1.58716 | 1493.9030 | 1.58810 | 1500.3518 |
| 27/32 | 1.58625 | 1487.6690 | 1.58719 | 1494.1043 | 1.58813 | 1500.5536 |
| 7/8 | 1.58628 | 1487.8699 | 1.58722 | 1494.3057 | 1.58815 | 1500.7553 |
| 29/32 | 1.58631 | 1488.0708 | 1.58725 | 1494.5070 | 1.58818 | 1500.9571 |
| 15/16 | 1.58634 | 1488.2717 | 1.58728 | 1494.7084 | 1.58821 | 1501.1589 |
| 31/32 | 1.58637 | 1488.4727 | 1.58731 | 1494.9097 | 1.58824 | 1501.3607 |
| 1 | 1.58640 | 1488.6736 | 1.58734 | 1495.1111 | 1.58827 | 1501.5625 |

| Fractions of an inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.58827 | 1501.5625 | 1.58920 | 1508.0278 | 1.59014 | 1514.5069 |
| 1/32 | 1.58830 | 1501.7643 | 1.58923 | 1508.2300 | 1.59016 | 1514.7096 |
| 1/16 | 1.58833 | 1501.9662 | 1.58926 | 1508.4323 | 1.59019 | 1514.9124 |
| 3/32 | 1.58836 | 1502.1680 | 1.58929 | 1508.6346 | 1.59022 | 1515.1151 |
| 1/8 | 1.58839 | 1502.3699 | 1.58932 | 1508.8369 | 1.59025 | 1515.3178 |
| 5/32 | 1.58842 | 1502.5718 | 1.58935 | 1509.0392 | 1.59028 | 1515.5206 |
| 3/16 | 1.58845 | 1502.7737 | 1.58938 | 1509.2416 | 1.59031 | 1515.7233 |
| 7/32 | 1.58848 | 1502.9756 | 1.58941 | 1509.4439 | 1.59034 | 1515.9261 |
| 1/4 | 1.58851 | 1503.1775 | 1.58944 | 1509.6463 | 1.59037 | 1516.1289 |
| 9/32 | 1.58853 | 1503.3795 | 1.58947 | 1509.8486 | 1.59040 | 1516.3317 |
| 5/16 | 1.58856 | 1503.5814 | 1.58950 | 1510.0510 | 1.59043 | 1516.5345 |
| 11/32 | 1.58859 | 1503.7834 | 1.58952 | 1510.2534 | 1.59046 | 1516.7374 |
| 3/8 | 1.58862 | 1503.9854 | 1.58955 | 1510.4558 | 1.59048 | 1516.9402 |
| 13/32 | 1.58865 | 1504.1873 | 1.58958 | 1510.6583 | 1.59051 | 1517.1431 |
| 7/16 | 1.58868 | 1504.3893 | 1.58961 | 1510.8607 | 1.59054 | 1517.3459 |
| 15/32 | 1.58871 | 1504.5914 | 1.58964 | 1511.0632 | 1.59057 | 1517.5488 |
| 1/2 | 1.58874 | 1504.7934 | 1.58967 | 1511.2656 | 1.59060 | 1517.7517 |
| 17/32 | 1.58877 | 1504.9954 | 1.58970 | 1511.4681 | 1.59063 | 1517.9547 |
| 9/16 | 1.58880 | 1505.1975 | 1.58973 | 1511.6706 | 1.59066 | 1518.1576 |
| 19/32 | 1.58883 | 1505.3996 | 1.58976 | 1511.8731 | 1.59069 | 1518.3605 |
| 5/8 | 1.58886 | 1505.6017 | 1.58979 | 1512.0756 | 1.59072 | 1518.5635 |
| 21/32 | 1.58888 | 1505.8038 | 1.58982 | 1512.2782 | 1.59075 | 1518.7664 |
| 11/16 | 1.58891 | 1506.0059 | 1.58984 | 1512.4807 | 1.59077 | 1518.9694 |
| 23/32 | 1.58894 | 1506.2080 | 1.58987 | 1512.6833 | 1.59080 | 1519.1724 |
| 3/4 | 1.58897 | 1506.4102 | 1.58990 | 1512.8859 | 1.59083 | 1519.3754 |
| 25/32 | 1.58900 | 1506.6123 | 1.58993 | 1513.0884 | 1.59086 | 1519.5785 |
| 13/16 | 1.58903 | 1506.8145 | 1.58996 | 1513.2910 | 1.59089 | 1519.7815 |
| 27/32 | 1.58906 | 1507.0167 | 1.58999 | 1513.4937 | 1.59092 | 1519.9845 |
| 7/8 | 1.58909 | 1507.2189 | 1.59002 | 1513.6963 | 1.59095 | 1520.1876 |
| 29/32 | 1.58912 | 1507.4211 | 1.59005 | 1513.8989 | 1.59098 | 1520.3907 |
| 15/16 | 1.58915 | 1507.6233 | 1.59008 | 1514.1016 | 1.59101 | 1520.5938 |
| 31/32 | 1.58918 | 1507.8255 | 1.59011 | 1514.3043 | 1.59104 | 1520.7969 |
| 1 | 1.58920 | 1508.0278 | 1.59014 | 1514.5069 | 1.59106 | 1521.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.59106 | 1521.0000 | 1.59199 | 1527.5069 | 1.59292 | 1534.0278 |
| 1/32 | 1.59109 | 1521.2031 | 1.59202 | 1527.7105 | 1.59295 | 1534.2318 |
| 1/16 | 1.59112 | 1521.4063 | 1.59205 | 1527.9141 | 1.59297 | 1534.4358 |
| 3/32 | 1.59115 | 1521.6094 | 1.59208 | 1528.1177 | 1.59300 | 1534.6398 |
| 1/8 | 1.59118 | 1521.8126 | 1.59211 | 1528.3213 | 1.59303 | 1534.8439 |
| 5/32 | 1.59121 | 1522.0158 | 1.59214 | 1528.5249 | 1.59306 | 1535.0479 |
| 3/16 | 1.59124 | 1522.2190 | 1.59217 | 1528.7285 | 1.59309 | 1535.2520 |
| 7/32 | 1.59127 | 1522.4222 | 1.59219 | 1528.9322 | 1.59312 | 1535.4561 |
| 1/4 | 1.59130 | 1522.6254 | 1.59222 | 1529.1359 | 1.59315 | 1535.6602 |
| 9/32 | 1.59133 | 1522.8287 | 1.59225 | 1529.3395 | 1.59318 | 1535.8643 |
| 5/16 | 1.59135 | 1523.0319 | 1.59228 | 1529.5432 | 1.59321 | 1536.0684 |
| 11/32 | 1.59138 | 1523.2352 | 1.59231 | 1529.7469 | 1.59323 | 1536.2725 |
| 3/8 | 1.59141 | 1523.4385 | 1.59234 | 1529.9506 | 1.59326 | 1536.4767 |
| 13/32 | 1.59144 | 1523.6418 | 1.59237 | 1530.1544 | 1.59329 | 1536.6808 |
| 7/16 | 1.59147 | 1523.8451 | 1.59240 | 1530.3581 | 1.59332 | 1536.8850 |
| 15/32 | 1.59150 | 1524.0484 | 1.59243 | 1530.5619 | 1.59335 | 1537.0892 |
| 1/2 | 1.59153 | 1524.2517 | 1.59245 | 1530.7656 | 1.59338 | 1537.2934 |
| 17/32 | 1.59156 | 1524.4551 | 1.59248 | 1530.9694 | 1.59341 | 1537.4976 |
| 9/16 | 1.59159 | 1524.6584 | 1.59251 | 1531.1732 | 1.59344 | 1537.7019 |
| 19/32 | 1.59162 | 1524.8618 | 1.59254 | 1531.3770 | 1.59346 | 1537.9061 |
| 5/8 | 1.59164 | 1525.0652 | 1.59257 | 1531.5808 | 1.59349 | 1538.1104 |
| 21/32 | 1.59167 | 1525.2686 | 1.59260 | 1531.7847 | 1.59352 | 1538.3146 |
| 11/16 | 1.59170 | 1525.4720 | 1.59263 | 1531.9885 | 1.59355 | 1538.5189 |
| 23/32 | 1.59173 | 1525.6755 | 1.59266 | 1532.1924 | 1.59358 | 1538.7232 |
| 3/4 | 1.59176 | 1525.8789 | 1.59269 | 1532.3963 | 1.59361 | 1538.9275 |
| 25/32 | 1.59179 | 1526.0824 | 1.59271 | 1532.6002 | 1.59364 | 1539.1318 |
| 13/16 | 1.59182 | 1526.2858 | 1.59274 | 1532.8041 | 1.59367 | 1539.3362 |
| 27/32 | 1.59185 | 1526.4893 | 1.59277 | 1533.0080 | 1.59370 | 1539.5405 |
| 7/8 | 1.59188 | 1526.6928 | 1.59280 | 1533.2119 | 1.59372 | 1539.7449 |
| 29/32 | 1.59190 | 1526.8963 | 1.59283 | 1533.4159 | 1.59375 | 1539.9493 |
| 15/16 | 1.59193 | 1527.0999 | 1.59286 | 1533.6198 | 1.59378 | 1540.1537 |
| 31/32 | 1.59196 | 1527.3034 | 1.59289 | 1533.8238 | 1.59381 | 1540.3581 |
| 1 | 1.59199 | 1527.5069 | 1.59292 | 1534.0278 | 1.59384 | 1540.5625 |

| Fractions of an inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.59384 | 1540.5625 | 1.59476 | 1547.1111 | 1.59568 | 1553.6736 |
| 1/32 | 1.59387 | 1540.7669 | 1.59479 | 1547.3160 | 1.59571 | 1553.8789 |
| 1/16 | 1.59390 | 1540.9714 | 1.59482 | 1547.5209 | 1.59574 | 1554.0842 |
| 3/32 | 1.59393 | 1541.1758 | 1.59485 | 1547.7258 | 1.59577 | 1554.2896 |
| 1/8 | 1.59395 | 1541.3803 | 1.59488 | 1547.9307 | 1.59579 | 1554.4949 |
| 5/32 | 1.59398 | 1541.5848 | 1.59490 | 1548.1356 | 1.59582 | 1554.7003 |
| 3/16 | 1.59401 | 1541.7893 | 1.59493 | 1548.3405 | 1.59585 | 1554.9056 |
| 7/32 | 1.59404 | 1541.9938 | 1.59496 | 1548.5455 | 1.59588 | 1555.1110 |
| 1/4 | 1.59407 | 1542.1984 | 1.59499 | 1548.7504 | 1.59591 | 1555.3164 |
| 9/32 | 1.59410 | 1542.4029 | 1.59502 | 1548.9554 | 1.59594 | 1555.5218 |
| 5/16 | 1.59413 | 1542.6074 | 1.59505 | 1549.1604 | 1.59597 | 1555.7272 |
| 11/32 | 1.59416 | 1542.8120 | 1.59508 | 1549.3654 | 1.59600 | 1555.9327 |
| 3/8 | 1.59419 | 1543.0166 | 1.59511 | 1549.5704 | 1.59602 | 1556.1381 |
| 13/32 | 1.59421 | 1543.2212 | 1.59513 | 1549.7755 | 1.59605 | 1556.3436 |
| 7/16 | 1.59424 | 1543.4258 | 1.59516 | 1549.9805 | 1.59608 | 1556.5491 |
| 15/32 | 1.59427 | 1543.6304 | 1.59519 | 1550.1856 | 1.59611 | 1556.7546 |
| 1/2 | 1.59430 | 1543.8351 | 1.59522 | 1550.3906 | 1.59614 | 1556.9601 |
| 17/32 | 1.59433 | 1544.0397 | 1.59525 | 1550.5957 | 1.59617 | 1557.1656 |
| 9/16 | 1.59436 | 1544.2444 | 1.59528 | 1550.8008 | 1.59620 | 1557.3711 |
| 19/32 | 1.59439 | 1544.4491 | 1.59531 | 1551.0059 | 1.59622 | 1557.5767 |
| 5/8 | 1.59442 | 1544.6538 | 1.59534 | 1551.2110 | 1.59625 | 1557.7822 |
| 21/32 | 1.59444 | 1544.8585 | 1.59536 | 1551.4162 | 1.59628 | 1557.9878 |
| 11/16 | 1.59447 | 1545.0632 | 1.59539 | 1551.6213 | 1.59631 | 1558.1934 |
| 23/32 | 1.59450 | 1545.2679 | 1.59542 | 1551.8265 | 1.59634 | 1558.3990 |
| 3/4 | 1.59453 | 1545.4727 | 1.59545 | 1552.0317 | 1.59637 | 1558.6046 |
| 25/32 | 1.59456 | 1545.6774 | 1.59548 | 1552.2369 | 1.59640 | 1558.8102 |
| 13/16 | 1.59459 | 1545.8822 | 1.59551 | 1552.4421 | 1.59643 | 1559.0159 |
| 27/32 | 1.59462 | 1546.0870 | 1.59554 | 1552.6473 | 1.59645 | 1559.2215 |
| 7/8 | 1.59465 | 1546.2918 | 1.59557 | 1552.8525 | 1.59648 | 1559 4272 |
| 29/32 | 1.59467 | 1546.4966 | 1.59559 | 1553.0578 | 1.59651 | 1559.6329 |
| 15/16 | 1.59470 | 1546.7014 | 1.59562 | 1553.2630 | 1.59654 | 1559.8386 |
| 31/32 | 1.59473 | 1546.9063 | 1.59565 | 1553.4683 | 1.59657 | 1560.0443 |
| 1 | 1.59476 | 1547.1111 | 1.59568 | 1553.6736 | 1.59660 | 1560.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.59660 | 1560.2500 | 1.59751 | 1566.8403 | 1.59843 | 1573.4444 |
| 1/32 | 1.59663 | 1560.4557 | 1.59754 | 1567.0464 | 1.59845 | 1573.6510 |
| 1/16 | 1.59665 | 1560.6615 | 1.59757 | 1567.2526 | 1.59848 | 1573.8577 |
| 3/32 | 1.59668 | 1560.8672 | 1.59760 | 1567.4588 | 1.59851 | 1574.0643 |
| 1/8 | 1.59671 | 1561.0730 | 1.59763 | 1567.6650 | 1.59854 | 1574.2709 |
| 5/32 | 1.59674 | 1561.2788 | 1.59766 | 1567.8713 | 1.59857 | 1574.4776 |
| 3/16 | 1.59677 | 1561.4846 | 1.59768 | 1568.0775 | 1.59860 | 1574.6843 |
| 7/32 | 1.59680 | 1561.6904 | 1.59771 | 1568.2838 | 1.59863 | 1574.8910 |
| 1/4 | 1.59683 | 1561.8963 | 1.59774 | 1568.4900 | 1.59865 | 1575.0977 |
| 9/32 | 1.59685 | 1562.1021 | 1.59777 | 1568.6963 | 1.59868 | 1575.3044 |
| 5/16 | 1.59688 | 1562.3080 | 1.59780 | 1568.9026 | 1.59871 | 1575.5111 |
| 11/32 | 1.59691 | 1562.5138 | 1.59783 | 1569.1089 | 1.59874 | 1575.7178 |
| 3/8 | 1.59694 | 1562.7197 | 1.59786 | 1569.3152 | 1.59877 | 1575.9246 |
| 13/32 | 1.59697 | 1562.9256 | 1.59788 | 1569.5215 | 1.59880 | 1576.1314 |
| 7/16 | 1.59700 | 1563.1315 | 1.59791 | 1569.7279 | 1.59882 | 1576.3381 |
| 15/32 | 1.59703 | 1563.3375 | 1.59794 | 1569.9343 | 1.59885 | 1576.5449 |
| 1/2 | 1.59705 | 1563.5434 | 1.59797 | 1570.1406 | 1.59888 | 1576.7517 |
| 17/32 | 1.59708 | 1563.7494 | 1.59800 | 1570.3470 | 1.59891 | 1576.9586 |
| 9/16 | 1.59711 | 1563.9553 | 1.59803 | 1570.5534 | 1.59894 | 1577.1654 |
| 19/32 | 1.59714 | 1564.1613 | 1.59805 | 1570.7598 | 1.59897 | 1577.3722 |
| 5/8 | 1.59717 | 1564.3673 | 1.59808 | 1570.9663 | 1.59900 | 1577.5791 |
| 21/32 | 1.59720 | 1564.5733 | 1.59811 | 1571.1727 | 1.59902 | 1577.7860 |
| 11/16 | 1.59723 | 1564.7793 | 1.59814 | 1571.3792 | 1.59905 | 1577.9929 |
| 23/32 | 1.59726 | 1564.9854 | 1.59817 | 1571.5856 | 1.59908 | 1578.1998 |
| 3/4 | 1.59728 | 1565.1914 | 1.59820 | 1571.7921 | 1.59911 | 1578.4067 |
| 25/32 | 1.59731 | 1565.3975 | 1.59823 | 1571.9986 | 1.59914 | 1578.6136 |
| 13/16 | 1.59734 | 1565.6035 | 1.59825 | 1572.2051 | 1.59917 | 1578.8206 |
| 27/32 | 1.59737 | 1565.8096 | 1.59828 | 1572.4116 | 1.59919 | 1579.0275 |
| 7/8 | 1.59740 | 1566.0157 | 1.59831 | 1572.6182 | 1.59922 | 1579.2345 |
| 29/32 | 1.59743 | 1566.2218 | 1.59834 | 1572.8247 | 1.59925 | 1579.4415 |
| 15/16 | 1.59746 | 1566.4280 | 1.59837 | 1573.0313 | 1.59928 | 1579.6485 |
| 31/32 | 1.59748 | 1566.6341 | 1.59840 | 1573.2379 | 1.59931 | 1579.8555 |
| 1 | 1.59751 | 1566.8403 | 1.59843 | 1573.4444 | 1.59934 | 1580.0625 |

| Fractions of an inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.59934 | 1580.0625 | 1.60025 | 1586.6944 | 1.60115 | 1593.3403 |
| 1/32 | 1.59937 | 1580.2695 | 1.60028 | 1586.9019 | 1.60118 | 1593.5482 |
| 1/16 | 1.59939 | 1580.4766 | 1.60030 | 1587.1094 | 1.60121 | 1593.7561 |
| 3/32 | 1.59942 | 1580.6837 | 1.60033 | 1587.3169 | 1.60124 | 1593.9640 |
| 1/8 | 1.59945 | 1580.8907 | 1.60036 | 1587.5244 | 1.60127 | 1594.1720 |
| 5/32 | 1.59948 | 1581.0978 | 1.60039 | 1587.7319 | 1.60130 | 1594.3799 |
| 3/16 | 1.59951 | 1581.3049 | 1.60042 | 1587.9395 | 1.60132 | 1594.5879 |
| 7/32 | 1.59954 | 1581.5121 | 1.60045 | 1588.1470 | 1.60135 | 1594.7959 |
| 1/4 | 1.59956 | 1581.7192 | 1.60047 | 1588.3546 | 1.60138 | 1595.0039 |
| 9/32 | 1.59959 | 1581.9263 | 1.60050 | 1588.5622 | 1.60141 | 1595.2119 |
| 5/16 | 1.59962 | 1582.1335 | 1.60053 | 1588.7698 | 1.60144 | 1595.4199 |
| 11/32 | 1.59965 | 1582.3407 | 1.60056 | 1588.9774 | 1.60147 | 1595.6280 |
| 3/8 | 1.59968 | 1582.5479 | 1.60059 | 1589.1850 | 1.60149 | 1595.8360 |
| 13/32 | 1.59971 | 1582.7551 | 1.60062 | 1589.3926 | 1.60152 | 1596.0441 |
| 7/16 | 1.59974 | 1582.9623 | 1.60064 | 1589.6003 | 1.60155 | 1596.2522 |
| 15/32 | 1.59976 | 1583.1695 | 1.60067 | 1589.8079 | 1.60158 | 1596.4603 |
| 1/2 | 1.59979 | 1583.3767 | 1.60070 | 1590.0156 | 1.60161 | 1596.6684 |
| 17/32 | 1.59982 | 1583.5840 | 1.60073 | 1590.2233 | 1.60164 | 1596.8765 |
| 9/16 | 1.59985 | 1583.7913 | 1.60076 | 1590.4310 | 1.60166 | 1597.0847 |
| 19/32 | 1.59988 | 1583.9985 | 1.60079 | 1590.6387 | 1.60169 | 1597.2928 |
| 5/8 | 1.59991 | 1584.2058 | 1.60081 | 1590.8465 | 1.60172 | 1597.5010 |
| 21/32 | 1.59993 | 1584.4131 | 1.60084 | 1591.0542 | 1.60175 | 1597.7092 |
| 11/16 | 1.59996 | 1584.6205 | 1.60087 | 1591.2620 | 1.60178 | 1597.9173 |
| 23/32 | 1.59999 | 1584.8278 | 1.60090 | 1591.4697 | 1.60181 | 1598.1255 |
| 3/4 | 1.60002 | 1585.0352 | 1.60093 | 1591.6775 | 1.60183 | 1598.3338 |
| 25/32 | 1.60005 | 1585.2425 | 1.60096 | 1591.8853 | 1.60186 | 1598.5420 |
| 13/16 | 1.60008 | 1585.4499 | 1.60098 | 1592.0931 | 1.60189 | 1598.7502 |
| 27/32 | 1.60010 | 1585.6573 | 1.60101 | 1592.3010 | 1.60192 | 1598.9585 |
| 7/8 | 1.60013 | 1585.8647 | 1.60104 | 1592.5088 | 1.60195 | 1599.1668 |
| 29/32 | 1.60016 | 1586.0721 | 1.60107 | 1592.7166 | 1.60198 | 1599.3751 |
| 15/16 | 1.60019 | 1586.2795 | 1.60110 | 1592.9245 | 1.60200 | 1599.5834 |
| 31/32 | 1.60022 | 1586.4870 | 1.60113 | 1593.1324 | 1.60203 | 1599.7917 |
| 1 | 1.60025 | 1586.6944 | 1.60115 | 1593.3403 | 1.60206 | 1600.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.60206 | 1600.0000 | 1.60296 | 1606.6736 | 1.60387 | 1613.3611 |
| 1/32 | 1.60209 | 1600.2083 | 1.60299 | 1606.8824 | 1.60389 | 1613.5703 |
| 1/16 | 1.60212 | 1600.4167 | 1.60302 | 1607.0912 | 1.60392 | 1613.7795 |
| 3/32 | 1.60214 | 1600.6251 | 1.60305 | 1607.3000 | 1.60395 | 1613.9888 |
| 1/8 | 1.60217 | 1600.8334 | 1.60308 | 1607.5088 | 1.60398 | 1614.1980 |
| 5/32 | 1.60220 | 1601.0418 | 1.60310 | 1607.7176 | 1.60401 | 1614.4073 |
| 3/16 | 1.60223 | 1601.2502 | 1.60313 | 1607.9265 | 1.60403 | 1614.6166 |
| 7/32 | 1.60226 | 1601.4587 | 1.60316 | 1608.1353 | 1.60406 | 1614.8259 |
| 1/4 | 1.60229 | 1601.6671 | 1.60319 | 1608.3442 | 1.60409 | 1615.0352 |
| 9/32 | 1.60231 | 1601.8755 | 1.60322 | 1608.5531 | 1.60412 | 1615.2445 |
| 5/16 | 1.60234 | 1602.0840 | 1.60325 | 1608.7620 | 1.60415 | 1615.4538 |
| 11/32 | 1.60237 | 1602.2925 | 1.60327 | 1608.9709 | 1.60418 | 1615.6631 |
| 3/8 | 1.60240 | 1602.5010 | 1.60330 | 1609.1798 | 1.60420 | 1615.8725 |
| 13/32 | 1.60243 | 1602.7095 | 1.60333 | 1609.3887 | 1.60423 | 1616.0819 |
| 7/16 | 1.60246 | 1602.9180 | 1.60336 | 1609.5977 | 1.60426 | 1616.2913 |
| 15/32 | 1.60248 | 1603.1265 | 1.60339 | 1609.8066 | 1.60429 | 1616.5007 |
| 1/2 | 1.60251 | 1603.3351 | 1.60342 | 1610.0156 | 1.60432 | 1616.7101 |
| 17/32 | 1.60254 | 1603.5436 | 1.60344 | 1610.2246 | 1.60434 | 1616.9195 |
| 9/16 | 1.60257 | 1603.7522 | 1.60347 | 1610.4336 | 1.60437 | 1617.1289 |
| 19/32 | 1.60260 | 1603.9608 | 1.60350 | 1610.6426 | 1.60440 | 1617.3384 |
| 5/8 | 1.60263 | 1604.1694 | 1.60353 | 1610.8517 | 1.60443 | 1617.5479 |
| 21/32 | 1.60265 | 1604.3780 | 1.60356 | 1611.0607 | 1.60446 | 1617.7573 |
| 11/16 | 1.60268 | 1604.5866 | 1.60358 | 1611.2698 | 1.60448 | 1617.9668 |
| 23/32 | 1.60271 | 1604.7953 | 1.60361 | 1611.4788 | 1.60451 | 1618.1763 |
| 3/4 | 1.60274 | 1605.0039 | 1.60364 | 1611.6879 | 1.60454 | 1618.3859 |
| 25/32 | 1.60277 | 1605.2126 | 1.60367 | 1611.8970 | 1.60457 | 1618.5954 |
| 13/16 | 1.60279 | 1605.4213 | 1.60370 | 1612.1061 | 1.60460 | 1618.8049 |
| 27/32 | 1.60282 | 1605.6299 | 1.60372 | 1612.3153 | 1.60463 | 1619.0145 |
| 7/8 | 1.60285 | 1605.8386 | 1.60375 | 1612.5244 | 1.60465 | 1619.2241 |
| 29/32 | 1.60288 | 1606.0474 | 1.60378 | 1612.7336 | 1.60468 | 1619.4337 |
| 15/16 | 1.60291 | 1606.2561 | 1.60381 | 1612.9427 | 1.60471 | 1619.6433 |
| 31/32 | 1.60294 | 1606.4649 | 1.60384 | 1613.1519 | 1.60474 | 1619.8529 |
| 1 | 1.60296 | 1606.6736 | 1.60387 | 1613.3611 | 1.60477 | 1620.0625 |

| Fractions of an inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.60477 | 1620.0625 | 1.60566 | 1626.7778 | 1.60656 | 1633.5069 |
| 1/32 | 1.60479 | 1620.2721 | 1.60569 | 1626.9879 | 1.60659 | 1633.7175 |
| 1/16 | 1.60482 | 1620.4818 | 1.60572 | 1627.1979 | 1.60662 | 1633.9280 |
| 3/32 | 1.60485 | 1620.6915 | 1.60575 | 1627.4080 | 1.60664 | 1634.1385 |
| 1/8 | 1.60488 | 1620.9012 | 1.60578 | 1627.6182 | 1.60667 | 1634.3491 |
| 5/32 | 1.60491 | 1621.1108 | 1.60580 | 1627.8283 | 1.60670 | 1634.5596 |
| 3/16 | 1.60493 | 1621.3206 | 1.60583 | 1628.0384 | 1.60673 | 1634.7702 |
| 7/32 | 1.60496 | 1621.5303 | 1.60586 | 1628.2486 | 1.60676 | 1634.9808 |
| 1/4 | 1.60499 | 1621.7400 | 1.60589 | 1628.4588 | 1.60678 | 1635.1914 |
| 9/32 | 1.60502 | 1621.9498 | 1.60592 | 1628.6690 | 1.60681 | 1635.4020 |
| 5/16 | 1.60505 | 1622.1595 | 1.60594 | 1628.8792 | 1.60684 | 1635.6127 |
| 11/32 | 1.60507 | 1622.3693 | 1.60597 | 1629.0894 | 1.60687 | 1635.8233 |
| 3/8 | 1.60510 | 1622.5791 | 1.60600 | 1629.2996 | 1.60690 | 1636.0340 |
| 13/32 | 1.60513 | 1622.7889 | 1.60603 | 1629.5098 | 1.60692 | 1636.2446 |
| 7/16 | 1.60516 | 1622.9987 | 1.60606 | 1629.7201 | 1.60695 | 1636.4553 |
| 15/32 | 1.60519 | 1623.2086 | 1.60608 | 1629.9303 | 1.60698 | 1636.6660 |
| 1/2 | 1.60522 | 1623.4184 | 1.60611 | 1630.1406 | 1.60701 | 1636.8767 |
| 17/32 | 1.60524 | 1623.6283 | 1.60614 | 1630.3509 | 1.60704 | 1637.0875 |
| 9/16 | 1.60527 | 1623.8381 | 1.60617 | 1630.5612 | 1.60706 | 1637.2982 |
| 19/32 | 1.60530 | 1624.0480 | 1.60620 | 1630.7715 | 1.60709 | 1637.5090 |
| 5/8 | 1.60533 | 1624.2579 | 1.60622 | 1630.9819 | 1.60712 | 1637.7197 |
| 21/32 | 1.60536 | 1624.4678 | 1.60625 | 1631.1922 | 1.60715 | 1637.9305 |
| 11/16 | 1.60538 | 1624.6778 | 1.60628 | 1631.4026 | 1.60718 | 1638.1413 |
| 23/32 | 1.60541 | 1624.8877 | 1.60631 | 1631.6130 | 1.60720 | 1638.3521 |
| 3/4 | 1.60544 | 1625.0977 | 1.60634 | 1631.8234 | 1.60723 | 1638.5629 |
| 25/32 | 1.60547 | 1625.3076 | 1.60636 | 1632.0338 | 1.60726 | 1638.7738 |
| 13/16 | 1.60550 | 1625.5176 | 1.60639 | 1632.2442 | 1.60729 | 1638.9846 |
| 27/32 | 1.60552 | 1625.7276 | 1.60642 | 1632.4546 | 1.60732 | 1639.1955 |
| 7/8 | 1.60555 | 1625.9376 | 1.60645 | 1632.6650 | 1.60734 | 1639.4064 |
| 29/32 | 1.60558 | 1626.1476 | 1.60648 | 1632.8755 | 1.60737 | 1639.6172 |
| 15/16 | 1.60561 | 1626.3577 | 1.60650 | 1633.0860 | 1.60740 | 1639.8282 |
| 31/32 | 1.60564 | 1626.5677 | 1.60653 | 1633.2964 | 1.60743 | 1640.0391 |
| 1 | 1.60566 | 1626.7778 | 1.60656 | 1633.5069 | 1.60746 | 1640.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.60746 | 1640.2500 | 1.60835 | 1647.0069 | 1.60924 | 1653.7778 |
| 1/32 | 1.60748 | 1640.4609 | 1.60838 | 1647.2183 | 1.60927 | 1653.9896 |
| 1/16 | 1.60751 | 1640.6719 | 1.60840 | 1647.4297 | 1.60929 | 1654.2014 |
| 3/32 | 1.60754 | 1640.8829 | 1.60843 | 1647.6411 | 1.60932 | 1654.4133 |
| 1/8 | 1.60757 | 1641.0939 | 1.60846 | 1647.8525 | 1.60935 | 1654.6251 |
| 5/32 | 1.60759 | 1641.3049 | 1.60849 | 1648.0640 | 1.60938 | 1654.8370 |
| 3/16 | 1.60762 | 1641.5159 | 1.60851 | 1648.2754 | 1.60941 | 1655.0489 |
| 7/32 | 1.60765 | 1641.7269 | 1.60854 | 1648.4869 | 1.60943 | 1655.2607 |
| 1/4 | 1.60768 | 1641.9379 | 1.60857 | 1648.6984 | 1.60946 | 1655.4727 |
| 9/32 | 1.60771 | 1642.1490 | 1.60860 | 1648.9098 | 1.60949 | 1655.6846 |
| 5/16 | 1.60773 | 1642.3601 | 1.60863 | 1649.1213 | 1.60952 | 1655.8965 |
| 11/32 | 1.60776 | 1642.5711 | 1.60865 | 1649.3329 | 1.60954 | 1656.1085 |
| 3/8 | 1.60779 | 1642.7822 | 1.60868 | 1649.5444 | 1.60957 | 1656.3204 |
| 13/32 | 1.60782 | 1642.9933 | 1.60871 | 1649.7559 | 1.60960 | 1656.5324 |
| 7/16 | 1.60785 | 1643.2045 | 1.60874 | 1649.9675 | 1.60963 | 1656.7444 |
| 15/32 | 1.60787 | 1643.4156 | 1.60877 | 1650.1790 | 1.60966 | 1656.9564 |
| 1/2 | 1.60790 | 1643.6267 | 1.60879 | 1650.3906 | 1.60968 | 1657.1684 |
| 17/32 | 1.60793 | 1643.8379 | 1.60882 | 1650.6022 | 1.60971 | 1657.3804 |
| 9/16 | 1.60796 | 1644.0491 | 1.60885 | 1650.8138 | 1.60974 | 1657.5925 |
| 19/32 | 1.60799 | 1644.2603 | 1.60888 | 1651.0255 | 1.60977 | 1657.8045 |
| 5/8 | 1.60801 | 1644.4715 | 1.60890 | 1651.2371 | 1.60979 | 1658.0166 |
| 21/32 | 1.60804 | 1644.6827 | 1.60893 | 1651.4487 | 1.60982 | 1658.2287 |
| 11/16 | 1.60807 | 1644.8939 | 1.60896 | 1651.6604 | 1.60985 | 1658.4408 |
| 23/32 | 1.60810 | 1645.1052 | 1.60899 | 1651.8721 | 1.60988 | 1658.6529 |
| 3/4 | 1.60812 | 1645.3164 | 1.60902 | 1652.0838 | 1.60991 | 1658.8650 |
| 25/32 | 1.60815 | 1645.5277 | 1.60904 | 1652.2955 | 1.60993 | 1659.0772 |
| 13/16 | 1.60818 | 1645.7390 | 1.60907 | 1652.5072 | 1.60996 | 1659.2893 |
| 27/32 | 1.60821 | 1645.9503 | 1.60910 | 1652.7189 | 1.60999 | 1659.5015 |
| 7/8 | 1.60824 | 1646.1616 | 1.60913 | 1652.9307 | 1.61002 | 1659.7137 |
| 29/32 | 1.60826 | 1646.3729 | 1.60916 | 1653.1424 | 1.61004 | 1659.9258 |
| 15/16 | 1.60829 | 1646.5842 | 1.60918 | 1653.3542 | 1.61007 | 1660.1380 |
| 31/32 | 1.60832 | 1646.7956 | 1.60921 | 1653.5660 | 1.61010 | 1660.3503 |
| 1 | 1.60835 | 1647.0069 | 1.60924 | 1653.7778 | 1.61013 | 1660.5625 |

| Fractions of an inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.61013 | 1660.5625 | 1.61101 | 1667.3611 | 1.61190 | 1674.1736 |
| 1/32 | 1.61016 | 1660.7747 | 1.61104 | 1667.5738 | 1.61193 | 1674.3867 |
| 1/16 | 1.61018 | 1660.9870 | 1.61107 | 1667.7865 | 1.61196 | 1674.5999 |
| 3/32 | 1.61021 | 1661.1993 | 1.61110 | 1667.9992 | 1.61198 | 1674.8130 |
| 1/8 | 1.61024 | 1661.4116 | 1.61113 | 1668.2119 | 1.61201 | 1675.0262 |
| 5/32 | 1.61027 | 1661.6239 | 1.61115 | 1668.4246 | 1.61204 | 1675.2393 |
| 3/16 | 1.61029 | 1661.8362 | 1.61118 | 1668.6374 | 1.61207 | 1675.4525 |
| 7/32 | 1.61032 | 1662.0485 | 1.61121 | 1668.8502 | 1.61209 | 1675.6657 |
| 1/4 | 1.61035 | 1662.2609 | 1.61124 | 1669.0629 | 1.61212 | 1675.8789 |
| 9/32 | 1.61038 | 1662.4732 | 1.61126 | 1669.2757 | 1.61215 | 1676.0921 |
| 5/16 | 1.61041 | 1662.6856 | 1.61129 | 1669.4885 | 1.61218 | 1676.3054 |
| 11/32 | 1.61043 | 1662.8980 | 1.61132 | 1669.7013 | 1.61220 | 1676.5186 |
| 3/8 | 1.61046 | 1663.1104 | 1.61135 | 1669.9142 | 1.61223 | 1676.7319 |
| 13/32 | 1.61049 | 1663.3228 | 1.61137 | 1670.1270 | 1.61226 | 1676.9452 |
| 7/16 | 1.61052 | 1663.5352 | 1.61140 | 1670.3399 | 1.61229 | 1677.1584 |
| 15/32 | 1.61054 | 1663.7476 | 1.61143 | 1670.5527 | 1.61231 | 1677.3718 |
| 1/2 | 1.61057 | 1663.9601 | 1.61146 | 1670.7656 | 1.61234 | 1677.5851 |
| 17/32 | 1.61060 | 1664.1725 | 1.61149 | 1670.9785 | 1.61237 | 1677.7984 |
| 9/16 | 1.61063 | 1664.3850 | 1.61151 | 1671.1914 | 1.61240 | 1678.0117 |
| 19/32 | 1.61065 | 1664.5975 | 1.61154 | 1671.4044 | 1.61243 | 1678.2251 |
| 5/8 | 1.61068 | 1664.8100 | 1.61157 | 1671.6173 | 1.61245 | 1678.4385 |
| 21/32 | 1.61071 | 1665.0225 | 1.61160 | 1671.8302 | 1.61248 | 1678.6519 |
| 11/16 | 1.61074 | 1665.2351 | 1.61162 | 1672.0432 | 1.61251 | 1678.8653 |
| 23/32 | 1.61077 | 1665.4476 | 1.61165 | 1672.2562 | 1.61254 | 1679.0787 |
| 3/4 | 1.61079 | 1665.6602 | 1.61168 | 1672.4692 | 1.61256 | 1679.2921 |
| 25/32 | 1.61082 | 1665.8727 | 1.61171 | 1672.6822 | 1.61259 | 1679.5055 |
| 13/16 | 1.61085 | 1666.0853 | 1.61173 | 1672.8952 | 1.61262 | 1679.7190 |
| 27/32 | 1.61088 | 1666.2979 | 1.61176 | 1673.1082 | 1.61265 | 1679.9325 |
| 7/8 | 1.61090 | 1666.5105 | 1.61179 | 1673.3213 | 1.61267 | 1680.1459 |
| 29/32 | 1.61093 | 1666.7232 | 1.61182 | 1673.5343 | 1.61270 | 1680.3594 |
| 15/16 | 1.61096 | 1666.9358 | 1.61184 | 1673.7474 | 1.61273 | 1680.5729 |
| 31/32 | 1.61099 | 1667.1484 | 1.61187 | 1673.9605 | 1.61276 | 1680.7865 |
| 1 | 1.61101 | 1667.3611 | 1.61190 | 1674.1736 | 1.61278 | 1681.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.61278 | 1681.0000 | 1.61367 | 1687.8403 | 1.61455 | 1694.6944 |
| 1/32 | 1.61281 | 1681.2135 | 1.61369 | 1688.0543 | 1.61457 | 1694.9089 |
| 1/16 | 1.61284 | 1681.4271 | 1.61372 | 1688.2683 | 1.61460 | 1695.1233 |
| 3/32 | 1.61287 | 1681.6407 | 1.61375 | 1688.4823 | 1.61463 | 1695.3377 |
| 1/8 | 1.61289 | 1681.8543 | 1.61378 | 1688.6963 | 1.61466 | 1695.5522 |
| 5/32 | 1.61292 | 1682.0679 | 1.61380 | 1688.9103 | 1.61468 | 1695.7667 |
| 3/16 | 1.61295 | 1682.2815 | 1.61383 | 1689.1244 | 1.61471 | 1695.9811 |
| 7/32 | 1.61298 | 1682.4951 | 1.61386 | 1689.3384 | 1.61474 | 1696.1956 |
| 1/4 | 1.61300 | 1682.7088 | 1.61389 | 1689.5525 | 1.61477 | 1696.4102 |
| 9/32 | 1.61303 | 1682.9224 | 1.61391 | 1689.7666 | 1.61479 | 1696.6247 |
| 5/16 | 1.61306 | 1683.1361 | 1.61394 | 1689.9807 | 1.61482 | 1696.8392 |
| 11/32 | 1.61309 | 1683.3498 | 1.61397 | 1690.1948 | 1.61485 | 1697.0538 |
| 3/8 | 1.61311 | 1683.5635 | 1.61400 | 1690.4090 | 1.61488 | 1697.2683 |
| 13/32 | 1.61314 | 1683.7772 | 1.61402 | 1690.6231 | 1.61490 | 1697.4829 |
| 7/16 | 1.61317 | 1683.9909 | 1.61405 | 1690.8373 | 1.61493 | 1697.6975 |
| 15/32 | 1.61320 | 1684.2047 | 1.61408 | 1691.0514 | 1.61496 | 1697.9121 |
| 1/2 | 1.61322 | 1684.4184 | 1.61411 | 1691.2656 | 1.61499 | 1698.1267 |
| 17/32 | 1.61325 | 1684.6322 | 1.61413 | 1691.4798 | 1.61501 | 1698.3414 |
| 9/16 | 1.61328 | 1684.8459 | 1.61416 | 1691.6940 | 1.61504 | 1698.5560 |
| 19/32 | 1.61331 | 1685.0597 | 1.61419 | 1691.9083 | 1.61507 | 1698.7707 |
| 5/8 | 1.61334 | 1685.2735 | 1.61422 | 1692.1225 | 1.61509 | 1698.9854 |
| 21/32 | 1.61336 | 1685.4874 | 1.61424 | 1692.3368 | 1.61512 | 1699.2000 |
| 11/16 | 1.61339 | 1685.7012 | 1.61427 | 1692.5510 | 1.61515 | 1699.4147 |
| 23/32 | 1.61342 | 1685.9150 | 1.61430 | 1692.7653 | 1.61518 | 1699.6295 |
| 3/4 | 1.61345 | 1686.1289 | 1.61433 | 1692.9796 | 1.61520 | 1699.8442 |
| 25/32 | 1.61347 | 1686.3428 | 1.61435 | 1693.1939 | 1.61523 | 1700.0589 |
| 13/16 | 1.61350 | 1686.5567 | 1.61438 | 1693.4082 | 1.61526 | 1700.2737 |
| 27/32 | 1.61353 | 1686.7706 | 1.61441 | 1693.6226 | 1.61529 | 1700.4885 |
| 7/8 | 1.61356 | 1686.9845 | 1.61444 | 1693.8369 | 1.61531 | 1700.7032 |
| 29/32 | 1.61358 | 1687.1984 | 1.61446 | 1694.0513 | 1.61534 | 1700.9180 |
| 15/16 | 1.61361 | 1687.4124 | 1.61449 | 1694.2657 | 1.61537 | 1701.1328 |
| 31/32 | 1.61364 | 1687.6263 | 1.61452 | 1694.4800 | 1.61540 | 1701.3477 |
| 1 | 1.61367 | 1687.8403 | 1.61455 | 1694.6944 | 1.61542 | 1701.5625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.61542 | 1701.5625 | 1.61630 | 1708.4444 | 1.61718 | 1715.3403 |
| 1/32 | 1.61545 | 1701.7774 | 1.61633 | 1708.6597 | 1.61720 | 1715.5560 |
| 1/16 | 1.61548 | 1701.9922 | 1.61636 | 1708.8750 | 1.61723 | 1715.7717 |
| 3/32 | 1.61551 | 1702.2071 | 1.61638 | 1709.0903 | 1.61726 | 1715.9875 |
| 1/8 | 1.61553 | 1702.4220 | 1.61641 | 1709.3057 | 1.61728 | 1716.2032 |
| 5/32 | 1.61556 | 1702.6369 | 1.61644 | 1709.5210 | 1.61731 | 1716.4190 |
| 3/16 | 1.61559 | 1702.8518 | 1.61646 | 1709.7364 | 1.61734 | 1716.6348 |
| 7/32 | 1.61562 | 1703.0667 | 1.61649 | 1709.9517 | 1.61737 | 1716.8506 |
| 1/4 | 1.61564 | 1703.2817 | 1.61652 | 1710.1671 | 1.61739 | 1717.0664 |
| 9/32 | 1.61567 | 1703.4966 | 1.61655 | 1710.3825 | 1.61742 | 1717.2822 |
| 5/16 | 1.61570 | 1703.7116 | 1.61657 | 1710.5979 | 1.61745 | 1717.4981 |
| 11/32 | 1.61573 | 1703.9266 | 1.61660 | 1710.8133 | 1.61748 | 1717.7139 |
| 3/8 | 1.61575 | 1704.1416 | 1.61663 | 1711.0288 | 1.61750 | 1717.9298 |
| 13/32 | 1.61578 | 1704.3566 | 1.61666 | 1711.2442 | 1.61753 | 1718.1457 |
| 7/16 | 1.61581 | 1704.5716 | 1.61668 | 1711.4597 | 1.61756 | 1718.3616 |
| 15/32 | 1.61584 | 1704.7867 | 1.61671 | 1711.6751 | 1.61758 | 1718.5775 |
| 1/2 | 1.61586 | 1705.0017 | 1.61674 | 1711.8906 | 1.61761 | 1718.7934 |
| 17/32 | 1.61589 | 1705.2168 | 1.61677 | 1712.1061 | 1.61764 | 1719.0093 |
| 9/16 | 1.61592 | 1705.4319 | 1.61679 | 1712.3216 | 1.61767 | 1719.2253 |
| 19/32 | 1.61594 | 1705.6470 | 1.61682 | 1712.5372 | 1.61769 | 1719.4413 |
| 5/8 | 1.61597 | 1705.8621 | 1.61685 | 1712.7527 | 1.61772 | 1719.6572 |
| 21/32 | 1.61600 | 1706.0772 | 1.61687 | 1712.9683 | 1.61775 | 1719.8732 |
| 11/16 | 1.61603 | 1706.2923 | 1.61690 | 1713.1838 | 1.61778 | 1720.0892 |
| 23/32 | 1.61605 | 1706.5075 | 1.61693 | 1713.3994 | 1.61780 | 1720.3052 |
| 3/4 | 1.61608 | 1706.7227 | 1.61696 | 1713.6150 | 1.61783 | 1720.5213 |
| 25/32 | 1.61611 | 1706.9378 | 1.61698 | 1713.8306 | 1.61786 | 1720.7373 |
| 13/16 | 1.61614 | 1707.1530 | 1.61701 | 1714.0463 | 1.61788 | 1720.9534 |
| 27/32 | 1.61616 | 1707.3682 | 1.61704 | 1714.2619 | 1.61791 | 1721.1694 |
| 7/8 | 1.61619 | 1707.5834 | 1.61707 | 1714.4775 | 1.61794 | 1721.3855 |
| 29/32 | 1.61622 | 1707.7987 | 1.61709 | 1714.6932 | 1.61797 | 1721.6016 |
| 15/16 | 1.61625 | 1708.0139 | 1.61712 | 1714.9089 | 1.61799 | 1721.8177 |
| 31/32 | 1.61627 | 1708.2292 | 1.61715 | 1715.1246 | 1.61802 | 1722.0339 |
| 1 | 1.61630 | 1708.4444 | 1.61718 | 1715.3403 | 1.61805 | 1722.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.61805 | 1722.2500 | 1.61892 | 1729.1736 | 1.61979 | 1736.1111 |
| 1/32 | 1.61808 | 1722.4662 | 1.61895 | 1729.3902 | 1.61982 | 1736.3281 |
| 1/16 | 1.61810 | 1722.6823 | 1.61897 | 1729.6068 | 1.61984 | 1736.5452 |
| 3/32 | 1.61813 | 1722.8985 | 1.61900 | 1729.8234 | 1.61987 | 1736.7622 |
| 1/8 | 1.61816 | 1723.1147 | 1.61903 | 1730.0400 | 1.61990 | 1736.9793 |
| 5/32 | 1.61818 | 1723.3309 | 1.61906 | 1730.2567 | 1.61992 | 1737.1964 |
| 3/16 | 1.61821 | 1723.5471 | 1.61908 | 1730.4733 | 1.61995 | 1737.4134 |
| 7/32 | 1.61824 | 1723.7634 | 1.61911 | 1730.6900 | 1.61998 | 1737.6305 |
| 1/4 | 1.61827 | 1723.9796 | 1.61914 | 1730.9067 | 1.62001 | 1737.8477 |
| 9/32 | 1.61829 | 1724.1959 | 1.61916 | 1731.1234 | 1.62003 | 1738.0648 |
| 5/16 | 1.61832 | 1724.4121 | 1.61919 | 1731.3401 | 1.62006 | 1738.2819 |
| 11/32 | 1.61835 | 1724.6284 | 1.61922 | 1731.5568 | 1.62009 | 1738.4991 |
| 3/8 | 1.61838 | 1724.8447 | 1.61925 | 1731.7735 | 1.62011 | 1738.7163 |
| 13/32 | 1.61840 | 1725.0610 | 1.61927 | 1731.9903 | 1.62014 | 1738.9334 |
| 7/16 | 1.61843 | 1725.2774 | 1.61930 | 1732.2071 | 1.62017 | 1739.1506 |
| 15/32 | 1.61846 | 1725.4937 | 1.61933 | 1732.4238 | 1.62020 | 1739.3678 |
| 1/2 | 1.61848 | 1725.7101 | 1.61935 | 1732.6406 | 1.62022 | 1739.5851 |
| 17/32 | 1.61851 | 1725.9264 | 1.61938 | 1732.8574 | 1.62025 | 1739.8023 |
| 9/16 | 1.61854 | 1726.1428 | 1.61941 | 1733.0742 | 1.62028 | 1740.0196 |
| 19/32 | 1.61857 | 1726.3592 | 1.61944 | 1733.2911 | 1.62030 | 1740.2368 |
| 5/8 | 1.61859 | 1726.5756 | 1.61946 | 1733.5079 | 1.62033 | 1740.4541 |
| 21/32 | 1.61862 | 1726.7921 | 1.61949 | 1733.7248 | 1.62036 | 1740.6714 |
| 11/16 | 1.61865 | 1727.0085 | 1.61952 | 1733.9417 | 1.62039 | 1740.8887 |
| 23/32 | 1.61867 | 1727.2249 | 1.61954 | 1734.1585 | 1.62041 | 1741.1060 |
| 3/4 | 1.61870 | 1727.4414 | 1.61957 | 1734.3754 | 1.62044 | 1741.3234 |
| 25/32 | 1.61873 | 1727.6579 | 1.61960 | 1734.5923 | 1.62047 | 1741.5407 |
| 13/16 | 1.61876 | 1727.8744 | 1.61963 | 1734.8093 | 1.62049 | 1741.7581 |
| 27/32 | 1.61878 | 1728.0909 | 1.61965 | 1735.0262 | 1.62052 | 1741.9754 |
| 7/8 | 1.61881 | 1728.3074 | 1.61968 | 1735.2432 | 1.62055 | 1742.1928 |
| 29/32 | 1.61884 | 1728.5239 | 1.61971 | 1735.4601 | 1.62058 | 1742.4102 |
| 15/16 | 1.61886 | 1728.7405 | 1.61973 | 1735.6771 | 1.62060 | 1742.6276 |
| 31/32 | 1.61889 | 1728.9570 | 1.61976 | 1735.8941 | 1.62063 | 1742.8451 |
| 1 | 1.61892 | 1729.1736 | 1.61979 | 1736.1111 | 1.62066 | 1743.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.62066 | 1743.0625 | 1.62152 | 1750.0278 | 1.62239 | 1757.0069 |
| 1/32 | 1.62068 | 1743.2800 | 1.62155 | 1750.2457 | 1.62241 | 1757.2253 |
| 1/16 | 1.62071 | 1743.4974 | 1.62158 | 1750.4636 | 1.62244 | 1757.4436 |
| 3/32 | 1.62074 | 1743.7149 | 1.62160 | 1750.6815 | 1.62247 | 1757.6620 |
| 1/8 | 1.62076 | 1743.9324 | 1.62163 | 1750.8994 | 1.62249 | 1757.8803 |
| 5/32 | 1.62079 | 1744.1499 | 1.62166 | 1751.1174 | 1.62252 | 1758.0987 |
| 3/16 | 1.62082 | 1744.3674 | 1.62168 | 1751.3353 | 1.62255 | 1758.3171 |
| 7/32 | 1.62085 | 1744.5850 | 1.62171 | 1751.5533 | 1.62258 | 1758.5355 |
| 1/4 | 1.62087 | 1744.8025 | 1.62174 | 1751.7713 | 1.62260 | 1758.7539 |
| 9/32 | 1.62090 | 1745.0201 | 1.62177 | 1751.9893 | 1.62263 | 1758.9723 |
| 5/16 | 1.62093 | 1745.2377 | 1.62179 | 1752.2073 | 1.62266 | 1759.1908 |
| 11/32 | 1.62095 | 1745.4552 | 1.62182 | 1752.4253 | 1.62268 | 1759.4092 |
| 3/8 | 1.62098 | 1745.6729 | 1.62185 | 1752.6433 | 1.62271 | 1759.6277 |
| 13/32 | 1.62101 | 1745.8905 | 1.62187 | 1752.8614 | 1.62274 | 1759.8462 |
| 7/16 | 1.62104 | 1746.1081 | 1.62190 | 1753.0795 | 1.62276 | 1760.0647 |
| 15/32 | 1.62106 | 1746.3257 | 1.62193 | 1753.2975 | 1.62279 | 1760.2832 |
| 1/2 | 1.62109 | 1746.5434 | 1.62195 | 1753.5156 | 1.62282 | 1760.5017 |
| 17/32 | 1.62112 | 1746.7611 | 1.62198 | 1753.7337 | 1.62285 | 1760.7203 |
| 9/16 | 1.62114 | 1746.9788 | 1.62201 | 1753.9519 | 1.62287 | 1760.9388 |
| 19/32 | 1.62117 | 1747.1965 | 1.62204 | 1754.1700 | 1.62290 | 1761.1574 |
| 5/8 | 1.62120 | 1747.4142 | 1.62206 | 1754.3881 | 1.62293 | 1761.3760 |
| 21/32 | 1.62122 | 1747.6319 | 1.62209 | 1754.6063 | 1.62295 | 1761.5946 |
| 11/16 | 1.62125 | 1747.8496 | 1.62212 | 1754.8245 | 1.62298 | 1761.8132 |
| 23/32 | 1.62128 | 1748.0674 | 1.62214 | 1755.0426 | 1.62301 | 1762.0318 |
| 3/4 | 1.62131 | 1748.2852 | 1.62217 | 1755.2609 | 1.62303 | 1762.2504 |
| 25/32 | 1.62133 | 1748.5029 | 1.62220 | 1755.4791 | 1.62306 | 1762.4691 |
| 13/16 | 1.62136 | 1748.7207 | 1.62222 | 1755.6973 | 1.62309 | 1762.6877 |
| 27/32 | 1.62139 | 1748.9385 | 1.62225 | 1755.9155 | 1.62311 | 1762.9064 |
| 7/8 | 1.62141 | 1749.1564 | 1.62228 | 1756.1338 | 1.62314 | 1763.1251 |
| 29/32 | 1.62144 | 1749.3742 | 1.62231 | 1756.3521 | 1.62317 | 1763.3438 |
| 15/16 | 1.62147 | 1749.5920 | 1.62233 | 1756.5703 | 1.62320 | 1763.5625 |
| 31/32 | 1.62150 | 1749.8099 | 1.62236 | 1756.7886 | 1.62322 | 1763.7813 |
| 1 | 1.62152 | 1750.0278 | 1.62239 | 1757.0069 | 1.62325 | 1764.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.62325 | 1764.0000 | 1.62411 | 1771.0069 | 1.62497 | 1778.0278 |
| 1/32 | 1.62328 | 1764.2188 | 1.62414 | 1771.2261 | 1.62500 | 1778.2474 |
| 1/16 | 1.62330 | 1764.4375 | 1.62416 | 1771.4453 | 1.62502 | 1778.4670 |
| 3/32 | 1.62333 | 1764.6563 | 1.62419 | 1771.6646 | 1.62505 | 1778.6867 |
| 1/8 | 1.62336 | 1764.8751 | 1.62422 | 1771.8838 | 1.62508 | 1778.9064 |
| 5/32 | 1.62338 | 1765.0939 | 1.62424 | 1772.1030 | 1.62510 | 1779.1260 |
| 3/16 | 1.62341 | 1765.3127 | 1.62427 | 1772.3223 | 1.62513 | 1779.3457 |
| 7/32 | 1.62344 | 1765.5316 | 1.62430 | 1772.5416 | 1.62516 | 1779.5654 |
| 1/4 | 1.62346 | 1765.7504 | 1.62433 | 1772.7609 | 1.62518 | 1779.7852 |
| 9/32 | 1.62349 | 1765.9693 | 1.62435 | 1772.9802 | 1.62521 | 1780.0049 |
| 5/16 | 1.62352 | 1766.1882 | 1.62438 | 1773.1995 | 1.62524 | 1780.2246 |
| 11/32 | 1.62355 | 1766.4071 | 1.62441 | 1773.4188 | 1.62526 | 1780.4444 |
| 3/8 | 1.62357 | 1766.6260 | 1.62443 | 1773.6381 | 1.62529 | 1780.6642 |
| 13/32 | 1.62360 | 1766.8449 | 1.62446 | 1773.8575 | 1.62532 | 1780.8840 |
| 7/16 | 1.62363 | 1767.0638 | 1.62449 | 1774.0768 | 1.62534 | 1781.1038 |
| 15/32 | 1.62365 | 1767.2828 | 1.62451 | 1774.2962 | 1.62537 | 1781.3236 |
| 1/2 | 1.62368 | 1767.5017 | 1.62454 | 1774.5156 | 1.62540 | 1781.5434 |
| 17/32 | 1.62371 | 1767.7207 | 1.62457 | 1774.7350 | 1.62542 | 1781.7632 |
| 9/16 | 1.62373 | 1767.9397 | 1.62459 | 1774.9545 | 1.62545 | 1781.9831 |
| 19/32 | 1.62376 | 1768.1587 | 1.62462 | 1775.1739 | 1.62548 | 1782.2030 |
| 5/8 | 1.62379 | 1768.3777 | 1.62465 | 1775.3933 | 1.62551 | 1782.4229 |
| 21/32 | 1.62381 | 1768.5967 | 1.62467 | 1775.6128 | 1.62553 | 1782.6427 |
| 11/16 | 1.62384 | 1768.8158 | 1.62470 | 1775.8323 | 1.62556 | 1782.8627 |
| 23/32 | 1.62387 | 1769.0348 | 1.62473 | 1776.0518 | 1.62559 | 1783.0826 |
| 3/4 | 1.62390 | 1769.2539 | 1.62475 | 1776.2713 | 1.62561 | 1783.3025 |
| 25/32 | 1.62392 | 1769.4730 | 1.62478 | 1776.4908 | 1.62564 | 1783.5225 |
| 13/16 | 1.62395 | 1769.6921 | 1.62481 | 1776.7103 | 1.62567 | 1783.7424 |
| 27/32 | 1.62398 | 1769.9112 | 1.62484 | 1776.9299 | 1.62569 | 1783.9624 |
| 7/8 | 1.62400 | 1770.1303 | 1.62486 | 1777.1494 | 1.62572 | 1784.1824 |
| 29/32 | 1.62403 | 1770.3495 | 1.62489 | 1777.3690 | 1.62575 | 1784.4024 |
| 15/16 | 1.62406 | 1770.5686 | 1.62492 | 1777.5886 | 1.62577 | 1784.6224 |
| 31/32 | 1.62408 | 1770.7878 | 1.62494 | 1777.8082 | 1.62580 | 1784.8425 |
| 1 | 1.62411 | 1771.0069 | 1.62497 | 1778.0278 | 1.62583 | 1785.0625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.62583 | 1785.0625 | 1.62668 | 1792.1111 | 1.62754 | 1799.1736 |
| 1/32 | 1.62585 | 1785.2826 | 1.62671 | 1792.3316 | 1.62756 | 1799.3945 |
| 1/16 | 1.62588 | 1785.5026 | 1.62674 | 1792.5521 | 1.62759 | 1799.6155 |
| 3/32 | 1.62591 | 1785.7227 | 1.62676 | 1792.7726 | 1.62762 | 1799.8364 |
| 1/8 | 1.62593 | 1785.9428 | 1.62679 | 1792.9932 | 1.62764 | 1800.0574 |
| 5/32 | 1.62596 | 1786.1629 | 1.62682 | 1793.2137 | 1.62767 | 1800.2784 |
| 3/16 | 1.62599 | 1786.3831 | 1.62684 | 1793.4343 | 1.62770 | 1800.4994 |
| 7/32 | 1.62601 | 1786.6032 | 1.62687 | 1793.6548 | 1.62772 | 1800.7204 |
| 1/4 | 1.62604 | 1786.8234 | 1.62690 | 1793.8754 | 1.62775 | 1800.9414 |
| 9/32 | 1.62607 | 1787.0435 | 1.62692 | 1794.0960 | 1.62778 | 1801.1624 |
| 5/16 | 1.62609 | 1787.2637 | 1.62695 | 1794.3167 | 1.62780 | 1801.3835 |
| 11/32 | 1.62612 | 1787.4839 | 1.62698 | 1794.5373 | 1.62783 | 1801.6046 |
| 3/8 | 1.62615 | 1787.7041 | 1.62700 | 1794.7579 | 1.62786 | 1801.8256 |
| 13/32 | 1.62617 | 1787.9243 | 1.62703 | 1794.9786 | 1.62788 | 1802.0467 |
| 7/16 | 1.62620 | 1788.1446 | 1.62706 | 1795.1992 | 1.62791 | 1802.2678 |
| 15/32 | 1.62623 | 1788.3648 | 1.62708 | 1795.4199 | 1.62794 | 1802.4889 |
| 1/2 | 1.62625 | 1788.5851 | 1.62711 | 1795.6406 | 1.62796 | 1802.7101 |
| 17/32 | 1.62628 | 1788.8053 | 1.62714 | 1795.8613 | 1.62799 | 1802.9312 |
| 9/16 | 1.62631 | 1789.0256 | 1.62716 | 1796.0821 | 1.62802 | 1803.1524 |
| 19/32 | 1.62634 | 1789.2459 | 1.62719 | 1796.3028 | 1.62804 | 1803.3735 |
| 5/8 | 1.62636 | 1789.4663 | 1.62722 | 1796.5235 | 1.62807 | 1803.5947 |
| 21/32 | 1.62639 | 1789.6866 | 1.62724 | 1796.7443 | 1.62810 | 1803.8159 |
| 11/16 | 1.62642 | 1789.9069 | 1.62727 | 1796.9651 | 1.62812 | 1804.0371 |
| 23/32 | 1.62644 | 1790.1273 | 1.62730 | 1797.1859 | 1.62815 | 1804.2584 |
| 3/4 | 1.62647 | 1790.3477 | 1.62732 | 1797.4067 | 1.62818 | 1804.4796 |
| 25/32 | 1.62650 | 1790.5680 | 1.62735 | 1797.6275 | 1.62820 | 1804.7009 |
| 13/16 | 1.62652 | 1790.7884 | 1.62738 | 1797.8483 | 1.62823 | 1804.9221 |
| 27/32 | 1.62655 | 1791.0089 | 1.62740 | 1798.0692 | 1.62826 | 1805.1434 |
| 7/8 | 1.62658 | 1791.2293 | 1.62743 | 1798.2900 | 1.62828 | 1805.3647 |
| 29/32 | 1.62660 | 1791.4497 | 1.62746 | 1798.5109 | 1.62831 | 1805.5860 |
| 15/16 | 1.62663 | 1791.6702 | 1.62748 | 1798.7318 | 1.62834 | 1805.8073 |
| 31/32 | 1.62666 | 1791.8906 | 1.62751 | 1798.9527 | 1.62836 | 1806.0287 |
| 1 | 1.62668 | 1792.1111 | 1.62754 | 1799.1736 | 1.62839 | 1806.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.62839 | 1806.2500 | 1.62924 | 1813.3403 | 1.63009 | 1820.4444 |
| 1/32 | 1.62842 | 1806.4714 | 1.62927 | 1813.5621 | 1.63012 | 1820.6667 |
| 1/16 | 1.62844 | 1806.6927 | 1.62929 | 1813.7839 | 1.63014 | 1820.8889 |
| 3/32 | 1.62847 | 1806.9141 | 1.62932 | 1814.0057 | 1.63017 | 1821.1112 |
| 1/8 | 1.62850 | 1807.1355 | 1.62935 | 1814.2275 | 1.63019 | 1821.3334 |
| 5/32 | 1.62852 | 1807.3569 | 1.62937 | 1814.4494 | 1.63022 | 1821.5557 |
| 3/16 | 1.62855 | 1807.5784 | 1.62940 | 1814.6713 | 1.63025 | 1821.7780 |
| 7/32 | 1.62858 | 1807.7998 | 1.62943 | 1814.8931 | 1.63027 | 1822.0003 |
| 1/4 | 1.62860 | 1808.0213 | 1.62945 | 1815.1150 | 1.63030 | 1822.2227 |
| 9/32 | 1.62863 | 1808.2427 | 1.62948 | 1815.3369 | 1.63033 | 1822.4450 |
| 5/16 | 1.62865 | 1808.4642 | 1.62951 | 1815.5588 | 1.63035 | 1822.6673 |
| 11/32 | 1.62868 | 1808.6857 | 1.62953 | 1815.7808 | 1.63038 | 1822.8897 |
| 3/8 | 1.62871 | 1808.9072 | 1.62956 | 1816.0027 | 1.63041 | 1823.1121 |
| 13/32 | 1.62873 | 1809.1288 | 1.62958 | 1816.2247 | 1.63043 | 1823.3345 |
| 7/16 | 1.62876 | 1809.3503 | 1.62961 | 1816.4466 | 1.63046 | 1823.5569 |
| 15/32 | 1.62879 | 1809.5718 | 1.62964 | 1816.6686 | 1.63049 | 1823.7793 |
| 1/2 | 1.62881 | 1809.7934 | 1.62966 | 1816.8906 | 1.63051 | 1824.0017 |
| 17/32 | 1.62884 | 1810.0150 | 1.62969 | 1817.1126 | 1.63054 | 1824.2242 |
| 9/16 | 1.62887 | 1810.2366 | 1.62972 | 1817.3347 | 1.63057 | 1824.4466 |
| 19/32 | 1.62889 | 1810.4582 | 1.62974 | 1817.5567 | 1.63059 | 1824.6691 |
| 5/8 | 1.62892 | 1810.6798 | 1.62977 | 1817.7788 | 1.63062 | 1824.8916 |
| 21/32 | 1.62895 | 1810.9014 | 1.62980 | 1818.0008 | 1.63065 | 1825.1141 |
| 11/16 | 1.62897 | 1811.1231 | 1.62982 | 1818.2229 | 1.63067 | 1825.3366 |
| 23/32 | 1.62900 | 1811.3447 | 1.62985 | 1818.4450 | 1.63070 | 1825.5591 |
| 3/4 | 1.62903 | 1811.5664 | 1.62988 | 1818.6671 | 1.63072 | 1825.7817 |
| 25/32 | 1.62905 | 1811.7881 | 1.62990 | 1818.8892 | 1.63075 | 1826.0042 |
| 13/16 | 1.62908 | 1812.0098 | 1.62993 | 1819.1114 | 1.63078 | 1826.2268 |
| 27/32 | 1.62911 | 1812.2315 | 1.62996 | 1819.3335 | 1.63080 | 1826.4494 |
| 7/8 | 1.62913 | 1812.4532 | 1.62998 | 1819.5557 | 1.63083 | 1826.6720 |
| 29/32 | 1.62916 | 1812.6750 | 1.63001 | 1819.7778 | 1.63086 | 1826.8946 |
| 15/16 | 1.62919 | 1812.8967 | 1.63004 | 1820.0000 | 1.63088 | 1827.1172 |
| 31/32 | 1.62921 | 1813.1185 | 1.63006 | 1820.2222 | 1.63091 | 1827.3399 |
| 1 | 1.62924 | 1813.3403 | 1.63009 | 1820.4444 | 1.63094 | 1827.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.63094 | 1827.5625 | 1.63178 | 1834.6944 | 1.63263 | 1841.8403 |
| 1/32 | 1.63096 | 1827.7852 | 1.63181 | 1834.9175 | 1.63265 | 1842.0638 |
| 1/16 | 1.63099 | 1828.0078 | 1.63183 | 1835.1407 | 1.63268 | 1842.2874 |
| 3/32 | 1.63102 | 1828.2305 | 1.63186 | 1835.3638 | 1.63271 | 1842.5109 |
| 1/8 | 1.63104 | 1828.4532 | 1.63189 | 1835.5869 | 1.63273 | 1842.7345 |
| 5/32 | 1.63107 | 1828.6760 | 1.63191 | 1835.8101 | 1.63276 | 1842.9581 |
| 3/16 | 1.63109 | 1828.8987 | 1.63194 | 1836.0332 | 1.63278 | 1843.1817 |
| 7/32 | 1.63112 | 1829.1214 | 1.63197 | 1836.2564 | 1.63281 | 1843.4053 |
| 1/4 | 1.63115 | 1829.3442 | 1.63199 | 1836.4796 | 1.63284 | 1843.6289 |
| 9/32 | 1.63117 | 1829.5670 | 1.63202 | 1836.7028 | 1.63286 | 1843.8525 |
| 5/16 | 1.63120 | 1829.7897 | 1.63205 | 1836.9260 | 1.63289 | 1844.0762 |
| 11/32 | 1.63123 | 1830.0125 | 1.63207 | 1837.1493 | 1.63292 | 1844.2999 |
| 3/8 | 1.63125 | 1830.2354 | 1.63210 | 1837.3725 | 1.63294 | 1844.5235 |
| 13/32 | 1.63128 | 1830.4582 | 1.63212 | 1837.5958 | 1.63297 | 1844.7472 |
| 7/16 | 1.63131 | 1830.6810 | 1.63215 | 1837.8190 | 1.63299 | 1844.9709 |
| 15/32 | 1.63133 | 1830.9039 | 1.63218 | 1838.0423 | 1.63302 | 1845.1947 |
| 1/2 | 1.63136 | 1831.1267 | 1.63220 | 1838.2656 | 1.63305 | 1845.4184 |
| 17/32 | 1.63139 | 1831.3496 | 1.63223 | 1838.4889 | 1.63307 | 1845.6422 |
| 9/16 | 1.63141 | 1831.5725 | 1.63226 | 1838.7123 | 1.63310 | 1845.8659 |
| 19/32 | 1.63144 | 1831.7954 | 1.63228 | 1838.9356 | 1.63313 | 1846.0897 |
| 5/8 | 1.63146 | 1832.0183 | 1.63231 | 1839.1590 | 1.63315 | 1846.3135 |
| 21/32 | 1.63149 | 1832.2413 | 1.63234 | 1839.3823 | 1.63318 | 1846.5373 |
| 11/16 | 1.63152 | 1832.4642 | 1.63236 | 1839.6057 | 1.63321 | 1846.7611 |
| 23/32 | 1.63154 | 1832.6872 | 1.63239 | 1839.8291 | 1.63323 | 1846.9849 |
| 3/4 | 1.63157 | 1832.9102 | 1.63242 | 1840.0525 | 1.63326 | 1847.2088 |
| 25/32 | 1.63160 | 1833.1331 | 1.63244 | 1840.2759 | 1.63328 | 1847.4326 |
| 13/16 | 1.63162 | 1833.3561 | 1.63247 | 1840.4994 | 1.63331 | 1847.6565 |
| 27/32 | 1.63165 | 1833.5792 | 1.63249 | 1840.7228 | 1.63334 | 1847.8804 |
| 7/8 | 1.63168 | 1833.8022 | 1.63252 | 1840.9463 | 1.63336 | 1848.1043 |
| 29/32 | 1.63170 | 1834.0252 | 1.63255 | 1841.1698 | 1.63339 | 1848.3282 |
| 15/16 | 1.63173 | 1834.2483 | 1.63257 | 1841.3933 | 1.63342 | 1848.5521 |
| 31/32 | 1.63176 | 1834.4714 | 1.63260 | 1841.6168 | 1.63344 | 1848.7760 |
| 1 | 1.63178 | 1834.6944 | 1.63263 | 1841.8403 | 1.63347 | 1849.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.63347 | 1849.0000 | 1.63431 | 1856.1736 | 1.63515 | 1863.3611 |
| 1/32 | 1.63349 | 1849.2240 | 1.63434 | 1856.3980 | 1.63517 | 1863.5859 |
| 1/16 | 1.63352 | 1849.4479 | 1.63436 | 1856.6224 | 1.63520 | 1863.8108 |
| 3/32 | 1.63355 | 1849.6719 | 1.63439 | 1856.8468 | 1.63523 | 1864.0357 |
| 1/8 | 1.63357 | 1849.8959 | 1.63441 | 1857.0713 | 1.63525 | 1864.2605 |
| 5/32 | 1.63360 | 1850.1200 | 1.63444 | 1857.2957 | 1.63528 | 1864.4854 |
| 3/16 | 1.63363 | 1850.3440 | 1.63447 | 1857.5202 | 1.63531 | 1864.7103 |
| 7/32 | 1.63365 | 1850.5680 | 1.63449 | 1857.7447 | 1.63533 | 1864.9352 |
| 1/4 | 1.63368 | 1850.7921 | 1.63452 | 1857.9692 | 1.63536 | 1865.1602 |
| 9/32 | 1.63371 | 1851.0162 | 1.63455 | 1858.1937 | 1.63538 | 1865.3851 |
| 5/16 | 1.63373 | 1851.2403 | 1.63457 | 1858.4182 | 1.63541 | 1865.6101 |
| 11/32 | 1.63376 | 1851.4644 | 1.63460 | 1858.6427 | 1.63544 | 1865.8350 |
| 3/8 | 1.63378 | 1851.6885 | 1.63462 | 1858.8673 | 1.63546 | 1866.0600 |
| 13/32 | 1.63381 | 1851.9126 | 1.63465 | 1859.0919 | 1.63549 | 1866.2850 |
| 7/16 | 1.63384 | 1852.1367 | 1.63468 | 1859.3164 | 1.63552 | 1866.5100 |
| 15/32 | 1.63386 | 1852.3609 | 1.63470 | 1859.5410 | 1.63554 | 1866.7350 |
| 1/2 | 1.63389 | 1852.5851 | 1.63473 | 1859.7656 | 1.63557 | 1866.9601 |
| 17/32 | 1.63392 | 1852.8093 | 1.63476 | 1859.9902 | 1.63559 | 1867.1851 |
| 9/16 | 1.63394 | 1853.0334 | 1.63478 | 1860.2149 | 1.63562 | 1867.4102 |
| 19/32 | 1.63397 | 1853.2577 | 1.63481 | 1860.4395 | 1.63565 | 1867.6353 |
| 5/8 | 1.63399 | 1853.4819 | 1.63483 | 1860.6642 | 1.63567 | 1867.8604 |
| 21/32 | 1.63402 | 1853.7061 | 1.63486 | 1860.8888 | 1.63570 | 1868.0855 |
| 11/16 | 1.63405 | 1853.9304 | 1.63489 | 1861.1135 | 1.63572 | 1868.3106 |
| 23/32 | 1.63407 | 1854.1546 | 1.63491 | 1861.3382 | 1.63575 | 1868.5357 |
| 3/4 | 1.63410 | 1854.3789 | 1.63494 | 1861.5629 | 1.63578 | 1868.7609 |
| 25/32 | 1.63413 | 1854.6032 | 1.63497 | 1861.7877 | 1.63580 | 1868.9860 |
| 13/16 | 1.63415 | 1854.8275 | 1.63499 | 1862.0124 | 1.63583 | 1869.2112 |
| 27/32 | 1.63418 | 1855.0518 | 1.63502 | 1862.2371 | 1.63586 | 1869.4364 |
| 7/8 | 1.63420 | 1855.2761 | 1.63504 | 1862.4619 | 1.63588 | 1869.6616 |
| 29/32 | 1.63423 | 1855.5005 | 1.63507 | 1862.6867 | 1.63591 | 1869.8868 |
| 15/16 | 1.63426 | 1855.7249 | 1.63510 | 1862.9115 | 1.63593 | 1870.1120 |
| 31/32 | 1.63428 | 1855.9492 | 1.63512 | 1863.1363 | 1.63596 | 1870.3372 |
| 1 | 1.63431 | 1856.1736 | 1.63515 | 1863.3611 | 1.63599 | 1870.5625 |

| Fractions of an inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.63599 | 1870.5625 | 1.63682 | 1877.7778 | 1.63766 | 1885.0069 |
| 1/32 | 1.63601 | 1870.7878 | 1.63685 | 1878.0035 | 1.63768 | 1885.2331 |
| 1/16 | 1.63604 | 1871.0130 | 1.63687 | 1878.2292 | 1.63771 | 1885.4592 |
| 3/32 | 1.63606 | 1871.2383 | 1.63690 | 1878.4549 | 1.63773 | 1885.6854 |
| 1/8 | 1.63609 | 1871.4637 | 1.63693 | 1878.6807 | 1.63776 | 1885.9116 |
| 5/32 | 1.63612 | 1871.6890 | 1.63695 | 1878.9064 | 1.63779 | 1886.1378 |
| 3/16 | 1.63614 | 1871.9143 | 1.63698 | 1879.1322 | 1.63781 | 1886.3640 |
| 7/32 | 1.63617 | 1872.1397 | 1.63700 | 1879.3580 | 1.63784 | 1886.5902 |
| 1/4 | 1.63620 | 1872.3650 | 1.63703 | 1879.5838 | 1.63786 | 1886.8164 |
| 9/32 | 1.63622 | 1872.5904 | 1.63706 | 1879.8096 | 1.63789 | 1887.0426 |
| 5/16 | 1.63625 | 1872.8158 | 1.63708 | 1880.0354 | 1.63792 | 1887.2689 |
| 11/32 | 1.63627 | 1873.0412 | 1.63711 | 1880.2612 | 1.63794 | 1887.4952 |
| 3/8 | 1.63630 | 1873.2666 | 1.63714 | 1880.4871 | 1.63797 | 1887.7215 |
| 13/32 | 1.63633 | 1873.4920 | 1.63716 | 1880.7130 | 1.63799 | 1887.9478 |
| 7/16 | 1.63635 | 1873.7175 | 1.63719 | 1880.9388 | 1.63802 | 1888.1741 |
| 15/32 | 1.63638 | 1873.9429 | 1.63721 | 1881.1647 | 1.63805 | 1888.4004 |
| 1/2 | 1.63640 | 1874.1684 | 1.63724 | 1881.3906 | 1.63807 | 1888.6267 |
| 17/32 | 1.63643 | 1874.3939 | 1.63727 | 1881.6165 | 1.63810 | 1888.8531 |
| 9/16 | 1.63646 | 1874.6194 | 1.63729 | 1881.8425 | 1.63813 | 1889.0795 |
| 19/32 | 1.63648 | 1874.8449 | 1.63732 | 1882.0684 | 1.63815 | 1889.3058 |
| 5/8 | 1.63651 | 1875.0704 | 1.63734 | 1882.2944 | 1.63818 | 1889.5322 |
| 21/32 | 1.63653 | 1875.2960 | 1.63737 | 1882.5204 | 1.63820 | 1889.7586 |
| 11/16 | 1.63656 | 1875.5215 | 1.63740 | 1882.7463 | 1.63823 | 1889.9851 |
| 23/32 | 1.63659 | 1875.7471 | 1.63742 | 1882.9723 | 1.63826 | 1890.2115 |
| 3/4 | 1.63661 | 1875.9727 | 1.63745 | 1883.1984 | 1.63828 | 1890.4379 |
| 25/32 | 1.63664 | 1876.1982 | 1.63747 | 1883.4244 | 1.63831 | 1890.6644 |
| 13/16 | 1.63667 | 1876.4239 | 1.63750 | 1883.6504 | 1.63833 | 1890.8909 |
| 27/32 | 1.63669 | 1876.6495 | 1.63753 | 1883.8765 | 1.63836 | 1891.1174 |
| 7/8 | 1.63672 | 1876.8751 | 1.63755 | 1884.1025 | 1.63839 | 1891.3439 |
| 29/32 | 1.63674 | 1877.1008 | 1.63758 | 1884.3286 | 1.63841 | 1891.5704 |
| 15/16 | 1.63677 | 1877.3264 | 1.63760 | 1884.5547 | 1.63844 | 1891.7969 |
| 31/32 | 1.63680 | 1877.5521 | 1.63763 | 1884.7808 | 1.63846 | 1892.0234 |
| 1 | 1.63682 | 1877.7778 | 1.63766 | 1885.0069 | 1.63849 | 1892.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.63849 | 1892.2500 | 1.63932 | 1899.5069 | 1.64015 | 1906.7778 |
| 1/32 | 1.63852 | 1892.4766 | 1.63935 | 1899.7339 | 1.64018 | 1907.0052 |
| 1/16 | 1.63854 | 1892.7032 | 1.63937 | 1899.9610 | 1.64020 | 1907.2327 |
| 3/32 | 1.63857 | 1892.9297 | 1.63940 | 1900.1880 | 1.64023 | 1907.4601 |
| 1/8 | 1.63859 | 1893.1564 | 1.63942 | 1900.4150 | 1.64025 | 1907.6876 |
| 5/32 | 1.63862 | 1893.3830 | 1.63945 | 1900.6421 | 1.64028 | 1907.9151 |
| 3/16 | 1.63865 | 1893.6096 | 1.63948 | 1900.8692 | 1.64031 | 1908.1426 |
| 7/32 | 1.63867 | 1893.8363 | 1.63950 | 1901.0963 | 1.64033 | 1908.3701 |
| 1/4 | 1.63870 | 1894.0629 | 1.63953 | 1901.3234 | 1.64036 | 1908.5977 |
| 9/32 | 1.63872 | 1894.2896 | 1.63955 | 1901.5505 | 1.64038 | 1908.8252 |
| 5/16 | 1.63875 | 1894.5163 | 1.63958 | 1901.7776 | 1.64041 | 1909.0528 |
| 11/32 | 1.63878 | 1894.7430 | 1.63961 | 1902.0047 | 1.64043 | 1909.2803 |
| 3/8 | 1.63880 | 1894.9697 | 1.63963 | 1902.2319 | 1.64046 | 1909.5079 |
| 13/32 | 1.63883 | 1895.1965 | 1.63966 | 1902.4590 | 1.64049 | 1909.7355 |
| 7/16 | 1.63885 | 1895.4232 | 1.63968 | 1902.6862 | 1.64051 | 1909.9631 |
| 15/32 | 1.63888 | 1895.6500 | 1.63971 | 1902.9134 | 1.64054 | 1910.1908 |
| 1/2 | 1.63891 | 1895.8767 | 1.63974 | 1903.1406 | 1.64056 | 1910.4184 |
| 17/32 | 1.63893 | 1896.1035 | 1.63976 | 1903.3678 | 1.64059 | 1910.6461 |
| 9/16 | 1.63896 | 1896.3303 | 1.63979 | 1903.5951 | 1.64062 | 1910.8737 |
| 19/32 | 1.63898 | 1896.5571 | 1.63981 | 1903.8223 | 1.64064 | 1911.1014 |
| 5/8 | 1.63901 | 1896.7840 | 1.63984 | 1904.0496 | 1.64067 | 1911.3291 |
| 21/32 | 1.63903 | 1897.0108 | 1.63987 | 1904.2769 | 1.64069 | 1911.5568 |
| 11/16 | 1.63906 | 1897.2377 | 1.63989 | 1904.5042 | 1.64072 | 1911.7845 |
| 23/32 | 1.63909 | 1897.4645 | 1.63992 | 1904.7315 | 1.64075 | 1912.0123 |
| 3/4 | 1.63911 | 1897.6914 | 1.63994 | 1904.9588 | 1.64077 | 1912.2400 |
| 25/32 | 1.63914 | 1897.9183 | 1.63997 | 1905.1861 | 1.64080 | 1912.4678 |
| 13/16 | 1.63916 | 1898.1452 | 1.63999 | 1905.4134 | 1.64082 | 1912.6956 |
| 27/32 | 1.63919 | 1898.3721 | 1.64002 | 1905.6408 | 1.64085 | 1912.9233 |
| 7/8 | 1.63922 | 1898.5991 | 1.64005 | 1905.8682 | 1.64087 | 1913.1512 |
| 29/32 | 1.63924 | 1898.8260 | 1.64007 | 1906.0955 | 1.64090 | 1913.3790 |
| 15/16 | 1.63927 | 1899.0530 | 1.64010 | 1906.3229 | 1.64093 | 1913.6068 |
| 31/32 | 1.63929 | 1899.2800 | 1.64012 | 1906.5504 | 1.64095 | 1913.8346 |
| 1 | 1.63932 | 1899.5069 | 1.64015 | 1906.7778 | 1.64098 | 1914.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.64098 | 1914.0625 | 1.64180 | 1921.3611 | 1.64263 | 1928.6736 |
| 1/32 | 1.64100 | 1914.2904 | 1.64183 | 1921.5894 | 1.64266 | 1928.9024 |
| 1/16 | 1.64103 | 1914.5183 | 1.64186 | 1921.8177 | 1.64268 | 1929.1311 |
| 3/32 | 1.64106 | 1914.7462 | 1.64188 | 1922.0461 | 1.64271 | 1929.3599 |
| 1/8 | 1.64108 | 1914.9741 | 1.64191 | 1922.2744 | 1.64273 | 1929.5887 |
| 5/32 | 1.64111 | 1915.2020 | 1.64193 | 1922.5028 | 1.64276 | 1929.8174 |
| 3/16 | 1.64113 | 1915.4299 | 1.64196 | 1922.7311 | 1.64278 | 1930.0463 |
| 7/32 | 1.64116 | 1915.6579 | 1.64199 | 1922.9595 | 1.64281 | 1930.2751 |
| 1/4 | 1.64118 | 1915.8859 | 1.64201 | 1923.1879 | 1.64284 | 1930.5039 |
| 9/32 | 1.64121 | 1916.1138 | 1.64204 | 1923.4163 | 1.64286 | 1930.7328 |
| 5/16 | 1.64124 | 1916.3418 | 1.64206 | 1923.6448 | 1.64289 | 1930.9616 |
| 11/32 | 1.64126 | 1916.5698 | 1.64209 | 1923.8732 | 1.64291 | 1931.1905 |
| 3/8 | 1.64129 | 1916.7979 | 1.64211 | 1924.1017 | 1.64294 | 1931.4194 |
| 13/32 | 1.64131 | 1917.0259 | 1.64214 | 1924.3301 | 1.64296 | 1931.6483 |
| 7/16 | 1.64134 | 1917.2539 | 1.64217 | 1924.5586 | 1.64299 | 1931.8772 |
| 15/32 | 1.64137 | 1917.4820 | 1.64219 | 1924.7871 | 1.64302 | 1932.1061 |
| 1/2 | 1.64139 | 1917.7101 | 1.64222 | 1925.0156 | 1.64304 | 1932.3351 |
| 17/32 | 1.64142 | 1917.9382 | 1.64224 | 1925.2441 | 1.64307 | 1932.5640 |
| 9/16 | 1.64144 | 1918.1663 | 1.64227 | 1925.4727 | 1.64309 | 1932.7930 |
| 19/32 | 1.64147 | 1918.3944 | 1.64229 | 1925.7012 | 1.64312 | 1933.0220 |
| 5/8 | 1.64149 | 1918.6225 | 1.64232 | 1925.9298 | 1.64314 | 1933.2510 |
| 21/32 | 1.64152 | 1918.8506 | 1.64235 | 1926.1584 | 1.64317 | 1933.4800 |
| 11/16 | 1.64155 | 1919.0788 | 1.64237 | 1926.3870 | 1.64320 | 1933.7090 |
| 23/32 | 1.64157 | 1919.3070 | 1.64240 | 1926.6156 | 1.64322 | 1933.9380 |
| 3/4 | 1.64160 | 1919.5352 | 1.64242 | 1926.8442 | 1.64325 | 1934.1671 |
| 25/32 | 1.64162 | 1919.7634 | 1.64245 | 1927.0728 | 1.64327 | 1934.3962 |
| 13/16 | 1.64165 | 1919.9916 | 1.64247 | 1927.3015 | 1.64330 | 1934.6252 |
| 27/32 | 1.64168 | 1920.2198 | 1.64250 | 1927.5301 | 1.64332 | 1934.8543 |
| 7/8 | 1.64170 | 1920.4480 | 1.64253 | 1927.7588 | 1.64335 | 1935.0834 |
| 29/32 | 1.64173 | 1920.6763 | 1.64255 | 1927.9875 | 1.64338 | 1935.3126 |
| 15/16 | 1.64175 | 1920.9045 | 1.64258 | 1928.2162 | 1.64340 | 1935.5417 |
| 31/32 | 1.64178 | 1921.1328 | 1.64260 | 1928.4449 | 1.64343 | 1935.7708 |
| 1 | 1.64180 | 1921.3611 | 1.64263 | 1928.6736 | 1.64345 | 1936.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.64345 | 1936.0000 | 1.64427 | 1943.3403 | 1.64509 | 1950.6944 |
| 1/32 | 1.64348 | 1936.2292 | 1.64430 | 1943.5699 | 1.64512 | 1950.9245 |
| 1/16 | 1.64350 | 1936.4584 | 1.64433 | 1943.7995 | 1.64515 | 1951.1545 |
| 3/32 | 1.64353 | 1936.6876 | 1.64435 | 1944.0291 | 1.64517 | 1951.3846 |
| 1/8 | 1.64356 | 1936.9168 | 1.64438 | 1944.2588 | 1.64520 | 1951.6147 |
| 5/32 | 1.64358 | 1937.1460 | 1.64440 | 1944.4885 | 1.64522 | 1951.8448 |
| 3/16 | 1.64361 | 1937.3752 | 1.64443 | 1944.7181 | 1.64525 | 1952.0749 |
| 7/32 | 1.64363 | 1937.6045 | 1.64445 | 1944.9478 | 1.64527 | 1952.3050 |
| 1/4 | 1.64366 | 1937.8338 | 1.64448 | 1945.1775 | 1.64530 | 1952.5352 |
| 9/32 | 1.64368 | 1938.0630 | 1.64451 | 1945.4072 | 1.64533 | 1952.7653 |
| 5/16 | 1.64371 | 1938.2923 | 1.64453 | 1945.6370 | 1.64535 | 1952.9955 |
| 11/32 | 1.64374 | 1938.5217 | 1.64456 | 1945.8667 | 1.64538 | 1953.2256 |
| 3/8 | 1.64376 | 1938.7510 | 1.64458 | 1946.0965 | 1.64540 | 1953.4558 |
| 13/32 | 1.64379 | 1938.9803 | 1.64461 | 1946.3262 | 1.64543 | 1953.6860 |
| 7/16 | 1.64381 | 1939.2097 | 1.64463 | 1946.5560 | 1.64545 | 1953.9163 |
| 15/32 | 1.64384 | 1939.4390 | 1.64466 | 1946.7858 | 1.64548 | 1954.1465 |
| 1/2 | 1.64386 | 1939.6684 | 1.64468 | 1947.0156 | 1.64550 | 1954.3767 |
| 17/32 | 1.64389 | 1939.8978 | 1.64471 | 1947.2454 | 1.64553 | 1954.6070 |
| 9/16 | 1.64392 | 1940.1272 | 1.64474 | 1947.4753 | 1.64556 | 1954.8373 |
| 19/32 | 1.64394 | 1940.3566 | 1.64476 | 1947.7051 | 1.64558 | 1955.0676 |
| 5/8 | 1.64397 | 1940.5860 | 1.64479 | 1947.9350 | 1.64561 | 1955.2979 |
| 21/32 | 1.64399 | 1940.8155 | 1.64481 | 1948.1649 | 1.64563 | 1955.5282 |
| 11/16 | 1.64402 | 1941.0449 | 1.64484 | 1948.3948 | 1.64566 | 1955.7585 |
| 23/32 | 1.64404 | 1941.2744 | 1.64486 | 1948.6247 | 1.64568 | 1955.9888 |
| 3/4 | 1.64407 | 1941.5039 | 1.64489 | 1948.8546 | 1.64571 | 1956.2192 |
| 25/32 | 1.64409 | 1941.7334 | 1.64492 | 1949.0845 | 1.64573 | 1956.4496 |
| 13/16 | 1.64412 | 1941.9629 | 1.64494 | 1949.3145 | 1.64576 | 1956.6799 |
| 27/32 | 1.64415 | 1942.1924 | 1.64497 | 1949.5444 | 1.64579 | 1956.9103 |
| 7/8 | 1.64417 | 1942.4220 | 1.64499 | 1949.7744 | 1.64581 | 1957.1407 |
| 29/32 | 1.64420 | 1942.6515 | 1.64502 | 1950.0044 | 1.64584 | 1957.3712 |
| 15/16 | 1.64422 | 1942.8811 | 1.64504 | 1950.2344 | 1.64586 | 1957.6016 |
| 31/32 | 1.64425 | 1943.1107 | 1.64507 | 1950.4644 | 1.64589 | 1957.8320 |
| 1 | 1.64427 | 1943.3403 | 1.64509 | 1950.6944 | 1.64591 | 1958.0625 |

| Fractions of an inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.64591 | 1958.0625 | 1.64673 | 1965.4444 | 1.64755 | 1972.8403 |
| 1/32 | 1.64594 | 1958.2930 | 1.64676 | 1965.6754 | 1.64757 | 1973.0716 |
| 1/16 | 1.64596 | 1958.5235 | 1.64678 | 1965.9063 | 1.64760 | 1973.3030 |
| 3/32 | 1.64599 | 1958.7540 | 1.64681 | 1966.1372 | 1.64762 | 1973.5343 |
| 1/8 | 1.64602 | 1958.9845 | 1.64683 | 1966.3682 | 1.64765 | 1973.7657 |
| 5/32 | 1.64604 | 1959.2150 | 1.64686 | 1966.5991 | 1.64767 | 1973.9971 |
| 3/16 | 1.64607 | 1959.4456 | 1.64688 | 1966.8301 | 1.64770 | 1974.2285 |
| 7/32 | 1.64609 | 1959.6761 | 1.64691 | 1967.0611 | 1.64772 | 1974.4600 |
| 1/4 | 1.64612 | 1959.9067 | 1.64693 | 1967.2921 | 1.64775 | 1974.6914 |
| 9/32 | 1.64614 | 1960.1373 | 1.64696 | 1967.5231 | 1.64778 | 1974.9229 |
| 5/16 | 1.64617 | 1960.3679 | 1.64699 | 1967.7542 | 1.64780 | 1975.1543 |
| 11/32 | 1.64619 | 1960.5985 | 1.64701 | 1967.9852 | 1.64783 | 1975.3858 |
| 3/8 | 1.64622 | 1960.8291 | 1.64704 | 1968.2163 | 1.64785 | 1975.6173 |
| 13/32 | 1.64625 | 1961.0597 | 1.64706 | 1968.4473 | 1.64788 | 1975.8488 |
| 7/16 | 1.64627 | 1961.2904 | 1.64709 | 1968.6784 | 1.64790 | 1976.0803 |
| 15/32 | 1.64630 | 1961.5211 | 1.64711 | 1968.9095 | 1.64793 | 1976.3119 |
| 1/2 | 1.64632 | 1961.7517 | 1.64714 | 1969.1406 | 1.64795 | 1976.5434 |
| 17/32 | 1.64635 | 1961.9824 | 1.64716 | 1969.3718 | 1.64798 | 1976.7750 |
| 9/16 | 1.64637 | 1962.2131 | 1.64719 | 1969.6029 | 1.64800 | 1977.0065 |
| 19/32 | 1.64640 | 1962.4439 | 1.64721 | 1969.8340 | 1.64803 | 1977.2381 |
| 5/8 | 1.64642 | 1962.6746 | 1.64724 | 1970.0652 | 1.64805 | 1977.4697 |
| 21/32 | 1.64645 | 1962.9053 | 1.64727 | 1970.2964 | 1.64808 | 1977.7013 |
| 11/16 | 1.64648 | 1963.1361 | 1.64729 | 1970.5276 | 1.64811 | 1977.9330 |
| 23/32 | 1.64650 | 1963.3669 | 1.64732 | 1970.7588 | 1.64813 | 1978.1646 |
| 3/4 | 1.64653 | 1963.5977 | 1.64734 | 1970.9900 | 1.64816 | 1978.3963 |
| 25/32 | 1.64655 | 1963.8285 | 1.64737 | 1971.2213 | 1.64818 | 1978.6279 |
| 13/16 | 1.64658 | 1964.0593 | 1.64739 | 1971.4525 | 1.64821 | 1978.8596 |
| 27/32 | 1.64660 | 1964.2901 | 1.64742 | 1971.6838 | 1.64823 | 1979.0913 |
| 7/8 | 1.64663 | 1964.5209 | 1.64744 | 1971.9150 | 1.64826 | 1979.3230 |
| 29/32 | 1.64665 | 1964.7518 | 1.64747 | 1972.1463 | 1.64828 | 1979.5547 |
| 15/16 | 1.64668 | 1964.9827 | 1.64750 | 1972.3776 | 1.64831 | 1979.7865 |
| 31/32 | 1.64670 | 1965.2135 | 1.64752 | 1972.6089 | 1.64833 | 1980.0182 |
| 1 | 1.64673 | 1965.4444 | 1.64755 | 1972.8403 | 1.64836 | 1980.2500 |

| Fractions of an inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.64836 | 1980.2500 | 1.64917 | 1987.6736 | 1.64998 | 1995.1111 |
| 1/32 | 1.64839 | 1980.4818 | 1.64920 | 1987.9058 | 1.65001 | 1995.3438 |
| 1/16 | 1.64841 | 1980.7136 | 1.64922 | 1988.1380 | 1.65003 | 1995.5764 |
| 3/32 | 1.64844 | 1980.9454 | 1.64925 | 1988.3703 | 1.65006 | 1995.8091 |
| 1/8 | 1.64846 | 1981.1772 | 1.64927 | 1988.6025 | 1.65008 | 1996.0418 |
| 5/32 | 1.64849 | 1981.4090 | 1.64930 | 1988.8348 | 1.65011 | 1996.2745 |
| 3/16 | 1.64851 | 1981.6409 | 1.64932 | 1989.0671 | 1.65014 | 1996.5072 |
| 7/32 | 1.64854 | 1981.8727 | 1.64935 | 1989.2994 | 1.65016 | 1996.7399 |
| 1/4 | 1.64856 | 1982.1046 | 1.64938 | 1989.5317 | 1.65019 | 1996.9727 |
| 9/32 | 1.64859 | 1982.3365 | 1.64940 | 1989.7640 | 1.65021 | 1997.2054 |
| 5/16 | 1.64861 | 1982.5684 | 1.64943 | 1989.9963 | 1.65024 | 1997.4382 |
| 11/32 | 1.64864 | 1982.8003 | 1.64945 | 1990.2287 | 1.65026 | 1997.6710 |
| 3/8 | 1.64866 | 1983.0322 | 1.64948 | 1990.4610 | 1.65029 | 1997.9038 |
| 13/32 | 1.64869 | 1983.2642 | 1.64950 | 1990.6934 | 1.65031 | 1998.1366 |
| 7/16 | 1.64872 | 1983.4961 | 1.64953 | 1990.9258 | 1.65034 | 1998.3694 |
| 15/32 | 1.64874 | 1983.7281 | 1.64955 | 1991.1582 | 1.65036 | 1998.6022 |
| 1/2 | 1.64877 | 1983.9601 | 1.64958 | 1991.3906 | 1.65039 | 1998.8351 |
| 17/32 | 1.64879 | 1984.1921 | 1.64960 | 1991.6231 | 1.65041 | 1999.0679 |
| 9/16 | 1.64882 | 1984.4241 | 1.64963 | 1991.8555 | 1.65044 | 1999.3008 |
| 19/32 | 1.64884 | 1984.6561 | 1.64965 | 1992.0880 | 1.65046 | 1999.5337 |
| 5/8 | 1.64887 | 1984.8881 | 1.64968 | 1992.3204 | 1.65049 | 1999.7666 |
| 21/32 | 1.64889 | 1985.1202 | 1.64970 | 1992.5529 | 1.65051 | 1999.9995 |
| 11/16 | 1.64892 | 1985.3522 | 1.64973 | 1992.7854 | 1.65054 | 2000.2324 |
| 23/32 | 1.64894 | 1985.5843 | 1.64976 | 1993.0179 | 1.65057 | 2000.4654 |
| 3/4 | 1.64897 | 1985.8164 | 1.64978 | 1993.2504 | 1.65059 | 2000.6984 |
| 25/32 | 1.64899 | 1986.0485 | 1.64981 | 1993.4830 | 1.65062 | 2000.9313 |
| 13/16 | 1.64902 | 1986.2806 | 1.64983 | 1993.7155 | 1.65064 | 2001.1643 |
| 27/32 | 1.64905 | 1986.5128 | 1.64986 | 1993.9481 | 1.65067 | 2001.3973 |
| 7/8 | 1.64907 | 1986.7449 | 1.64988 | 1994.1807 | 1.65069 | 2001.6303 |
| 29/32 | 1.64910 | 1986.9771 | 1.64991 | 1994.4133 | 1.65072 | 2001.8633 |
| 15/16 | 1.64912 | 1987.2092 | 1.64993 | 1994.6459 | 1.65074 | 2002.0964 |
| 31/32 | 1.64915 | 1987.4414 | 1.64996 | 1994.8785 | 1.65077 | 2002.3294 |
| 1 | 1.64917 | 1987.6736 | 1.64998 | 1995.1111 | 1.65079 | 2002.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.65079 | 2002.5625 | 1.65160 | 2010.0278 | 1.65241 | 2017.5069 |
| 1/32 | 1.65082 | 2002.7956 | 1.65163 | 2010.2613 | 1.65243 | 2017.7409 |
| 1/16 | 1.65084 | 2003.0287 | 1.65165 | 2010.4948 | 1.65246 | 2017.9749 |
| 3/32 | 1.65087 | 2003.2618 | 1.65168 | 2010.7284 | 1.65248 | 2018.2088 |
| 1/8 | 1.65089 | 2003.4949 | 1.65170 | 2010.9619 | 1.65251 | 2018.4428 |
| 5/32 | 1.65092 | 2003.7280 | 1.65173 | 2011.1955 | 1.65253 | 2018.6768 |
| 3/16 | 1.65094 | 2003.9612 | 1.65175 | 2011.4291 | 1.65256 | 2018.9108 |
| 7/32 | 1.65097 | 2004.1943 | 1.65178 | 2011.6627 | 1.65258 | 2019.1449 |
| 1/4 | 1.65100 | 2004.4275 | 1.65180 | 2011.8963 | 1.65261 | 2019.3789 |
| 9/32 | 1.65102 | 2004.6607 | 1.65183 | 2012.1299 | 1.65263 | 2019.6130 |
| 5/16 | 1.65105 | 2004.8939 | 1.65185 | 2012.3635 | 1.65266 | 2019.8470 |
| 11/32 | 1.65107 | 2005.1271 | 1.65188 | 2012.5972 | 1.65268 | 2020.0811 |
| 3/8 | 1.65110 | 2005.3604 | 1.65190 | 2012.8308 | 1.65271 | 2020.3152 |
| 13/32 | 1.65112 | 2005.5936 | 1.65193 | 2013.0645 | 1.65273 | 2020.5493 |
| 7/16 | 1.65115 | 2005.8268 | 1.65195 | 2013.2982 | 1.65276 | 2020.7834 |
| 15/32 | 1.65117 | 2006.0601 | 1.65198 | 2013.5319 | 1.65279 | 2021.0176 |
| 1/2 | 1.65120 | 2006.2934 | 1.65200 | 2013.7656 | 1.65281 | 2021.2517 |
| 17/32 | 1.65122 | 2006.5267 | 1.65203 | 2013.9994 | 1.65284 | 2021.4859 |
| 9/16 | 1.65125 | 2006.7600 | 1.65205 | 2014.2331 | 1.65286 | 2021.7201 |
| 19/32 | 1.65127 | 2006.9933 | 1.65208 | 2014.4669 | 1.65289 | 2021.9543 |
| 5/8 | 1.65130 | 2007.2267 | 1.65211 | 2014.7006 | 1.65291 | 2022.1885 |
| 21/32 | 1.65132 | 2007.4600 | 1.65213 | 2014.9344 | 1.65294 | 2022.4227 |
| 11/16 | 1.65135 | 2007.6934 | 1.65216 | 2015.1682 | 1.65296 | 2022.6569 |
| 23/32 | 1.65137 | 2007.9268 | 1.65218 | 2015.4020 | 1.65299 | 2022.8912 |
| 3/4 | 1.65140 | 2008.1602 | 1.65221 | 2015.6359 | 1.65301 | 2023.1254 |
| 25/32 | 1.65142 | 2008.3936 | 1.65223 | 2015.8697 | 1.65304 | 2023.3597 |
| 13/16 | 1.65145 | 2008.6270 | 1.65226 | 2016.1035 | 1.65306 | 2023.5940 |
| 27/32 | 1.65147 | 2008.8604 | 1.65228 | 2016.3374 | 1.65309 | 2023.8283 |
| 7/8 | 1.65150 | 2009.0939 | 1.65231 | 2016.5713 | 1.65311 | 2024.0626 |
| 29/32 | 1.65153 | 2009.3273 | 1.65233 | 2016.8052 | 1.65314 | 2024.2969 |
| 15/16 | 1.65155 | 2009.5608 | 1.65236 | 2017.0391 | 1.65316 | 2024.5313 |
| 31/32 | 1.65158 | 2009.7943 | 1.65238 | 2017.2730 | 1.65319 | 2024.7656 |
| 1 | 1.65160 | 2010.0278 | 1.65241 | 2017.5069 | 1.65321 | 2025.0000 |

| Fractions of an Inch. | 0" | | 1" | | 2" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.65321 | 2025.0000 | 1.65402 | 2032.5069 | 1.65482 | 2040.0278 |
| 1/32 | 1.65324 | 2025.2344 | 1.65404 | 2032.7418 | 1.65484 | 2040.2630 |
| 1/16 | 1.65326 | 2025.4688 | 1.65407 | 2032.9766 | 1.65487 | 2040.4983 |
| 3/32 | 1.65329 | 2025.7032 | 1.65409 | 2033.2114 | 1.65489 | 2040.7336 |
| 1/8 | 1.65331 | 2025.9376 | 1.65412 | 2033.4463 | 1.65492 | 2040.9689 |
| 5/32 | 1.65334 | 2026.1720 | 1.65414 | 2033.6812 | 1.65494 | 2041.2042 |
| 3/16 | 1.65336 | 2026.4065 | 1.65417 | 2033.9160 | 1.65497 | 2041.4395 |
| 7/32 | 1.65339 | 2026.6410 | 1.65419 | 2034.1509 | 1.65499 | 2041.6748 |
| 1/4 | 1.65341 | 2026.8754 | 1.65422 | 2034.3859 | 1.65502 | 2041.9102 |
| 9/32 | 1.65344 | 2027.1099 | 1.65424 | 2034.6208 | 1.65504 | 2042.1455 |
| 5/16 | 1.65346 | 2027.3444 | 1.65427 | 2034.8557 | 1.65507 | 2042.3809 |
| 11/32 | 1.65349 | 2027.5789 | 1.65429 | 2035.0907 | 1.65509 | 2042.6163 |
| 3/8 | 1.65351 | 2027.8135 | 1.65432 | 2035.3256 | 1.65512 | 2042.8517 |
| 13/32 | 1.65354 | 2028.0480 | 1.65434 | 2035.5606 | 1.65514 | 2043.0871 |
| 7/16 | 1.65356 | 2028.2826 | 1.65437 | 2035.7956 | 1.65517 | 2043.3225 |
| 15/32 | 1.65359 | 2028.5172 | 1.65439 | 2036.0306 | 1.65519 | 2043.5579 |
| 1/2 | 1.65361 | 2028.7517 | 1.65442 | 2036.2656 | 1.65522 | 2043.7934 |
| 17/32 | 1.65364 | 2028.9863 | 1.65444 | 2036.5007 | 1.65524 | 2044.0289 |
| 9/16 | 1.65366 | 2029.2209 | 1.65447 | 2036.7357 | 1.65527 | 2044.2644 |
| 19/32 | 1.65369 | 2029.4556 | 1.65449 | 2036.9708 | 1.65529 | 2044.4998 |
| 5/8 | 1.65371 | 2029.6902 | 1.65452 | 2037.2058 | 1.65532 | 2044.7354 |
| 21/32 | 1.65374 | 2029.9249 | 1.65454 | 2037.4409 | 1.65534 | 2044.9709 |
| 11/16 | 1.65377 | 2030.1595 | 1.65457 | 2037.6760 | 1.65537 | 2045.2064 |
| 23/32 | 1.65379 | 2030.3942 | 1.65459 | 2037.9111 | 1.65539 | 2045.4420 |
| 3/4 | 1.65382 | 2030.6289 | 1.65462 | 2038.1463 | 1.65542 | 2045.6775 |
| 25/32 | 1.65384 | 2030.8636 | 1.65464 | 2038.3814 | 1.65544 | 2045.9131 |
| 13/16 | 1.65387 | 2031.0983 | 1.65467 | 2038.6166 | 1.65547 | 2046.1487 |
| 27/32 | 1.65389 | 2031.3331 | 1.65469 | 2038.8517 | 1.65549 | 2046.3843 |
| 7/8 | 1.65392 | 2031.5678 | 1.65472 | 2039.0869 | 1.65552 | 2046.6199 |
| 29/32 | 1.65394 | 2031.8026 | 1.65474 | 2039.3221 | 1.65554 | 2046.8555 |
| 15/16 | 1.65397 | 2032.0374 | 1.65477 | 2039.5573 | 1.65557 | 2047.0912 |
| 31/32 | 1.65399 | 2032.2721 | 1.65479 | 2039.7925 | 1.65559 | 2047.3268 |
| 1 | 1.65402 | 2032.5069 | 1.65482 | 2040.0278 | 1.65562 | 2047.5625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.65562 | 2047.5625 | 1.65642 | 2055.1111 | 1.65722 | 2062.6736 |
| 1/32 | 1.65564 | 2047.7982 | 1.65644 | 2055.3472 | 1.65724 | 2062.9102 |
| 1/16 | 1.65567 | 2048.0339 | 1.65647 | 2055.5834 | 1.65727 | 2063.1467 |
| 3/32 | 1.65569 | 2048.2696 | 1.65649 | 2055.8195 | 1.65729 | 2063.3833 |
| 1/8 | 1.65572 | 2048.5053 | 1.65652 | 2056.0557 | 1.65731 | 2063.6199 |
| 5/32 | 1.65574 | 2048.7411 | 1.65654 | 2056.2918 | 1.65734 | 2063.8565 |
| 3/16 | 1.65577 | 2048.9768 | 1.65657 | 2056.5280 | 1.65736 | 2064.0931 |
| 7/32 | 1.65579 | 2049.2126 | 1.65659 | 2056.7642 | 1.65739 | 2064.3298 |
| 1/4 | 1.65582 | 2049.4484 | 1.65662 | 2057.0004 | 1.65741 | 2064.5664 |
| 9/32 | 1.65584 | 2049.6841 | 1.65664 | 2057.2367 | 1.65744 | 2064.8031 |
| 5/16 | 1.65587 | 2049.9199 | 1.65667 | 2057.4729 | 1.65746 | 2065.0397 |
| 11/32 | 1.65589 | 2050.1558 | 1.65669 | 2057.7092 | 1.65749 | 2065.2764 |
| 3/8 | 1.65592 | 2050.3916 | 1.65672 | 2057.9454 | 1.65751 | 2065.5131 |
| 13/32 | 1.65594 | 2050.6274 | 1.65674 | 2058.1817 | 1.65754 | 2065.7498 |
| 7/16 | 1.65597 | 2050.8633 | 1.65677 | 2058.4180 | 1.65756 | 2065.9866 |
| 15/32 | 1.65599 | 2051.0992 | 1.65679 | 2058.6543 | 1.65759 | 2066.2233 |
| 1/2 | 1.65602 | 2051.3351 | 1.65682 | 2058.8906 | 1.65761 | 2066.4601 |
| 17/32 | 1.65604 | 2051.5710 | 1.65684 | 2059.1270 | 1.65764 | 2066.6968 |
| 9/16 | 1.65607 | 2051.8069 | 1.65687 | 2059.3633 | 1.65766 | 2066.9336 |
| 19/32 | 1.65609 | 2052.0428 | 1.65689 | 2059.5997 | 1.65769 | 2067.1704 |
| 5/8 | 1.65612 | 2052.2788 | 1.65692 | 2059.8360 | 1.65771 | 2067.4072 |
| 21/32 | 1.65614 | 2052.5147 | 1.65694 | 2060.0724 | 1.65774 | 2067.6440 |
| 11/16 | 1.65617 | 2052.7507 | 1.65697 | 2060.3088 | 1.65776 | 2067.8809 |
| 23/32 | 1.65619 | 2052.9867 | 1.65699 | 2060.5453 | 1.65779 | 2068.1177 |
| 3/4 | 1.65622 | 2053.2227 | 1.65702 | 2060.7817 | 1.65781 | 2068.3546 |
| 25/32 | 1.65624 | 2053.4587 | 1.65704 | 2061.0181 | 1.65784 | 2068.5915 |
| 13/16 | 1.65627 | 2053.6947 | 1.65707 | 2061.2546 | 1.65786 | 2068.8284 |
| 27/32 | 1.65629 | 2053.9307 | 1.65709 | 2061.4911 | 1.65789 | 2069.0653 |
| 7/8 | 1.65632 | 2054.1668 | 1.65712 | 2061.7275 | 1.65791 | 2069.3022 |
| 29/32 | 1.65634 | 2054.4028 | 1.65714 | 2061.9640 | 1.65794 | 2069.5391 |
| 15/16 | 1.65637 | 2054.6389 | 1.65717 | 2062.2005 | 1.65796 | 2069.7761 |
| 31/32 | 1.65639 | 2054.8750 | 1.65719 | 2062.4371 | 1.65799 | 2070.0130 |
| 1 | 1.65642 | 2055.1111 | 1.65722 | 2062.6736 | 1.65801 | 2070.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.65801 | 2070.2500 | 1.65881 | 2077.8403 | 1.65960 | 2085.4444 |
| 1/32 | 1.65804 | 2070.4870 | 1.65883 | 2078.0777 | 1.65962 | 2085.6823 |
| 1/16 | 1.65806 | 2070.7240 | 1.65886 | 2078.3151 | 1.65965 | 2085.9202 |
| 3/32 | 1.65809 | 2070.9610 | 1.65888 | 2078.5526 | 1.65967 | 2086.1580 |
| 1/8 | 1.65811 | 2071.1980 | 1.65891 | 2078.7900 | 1.65970 | 2086.3959 |
| 5/32 | 1.65814 | 2071.4351 | 1.65893 | 2079.0275 | 1.65972 | 2086.6338 |
| 3/16 | 1.65816 | 2071.6721 | 1.65895 | 2079.2650 | 1.65975 | 2086.8718 |
| 7/32 | 1.65819 | 2071.9092 | 1.65898 | 2079.5025 | 1.65977 | 2087.1097 |
| 1/4 | 1.65821 | 2072.1463 | 1.65900 | 2079.7400 | 1.65980 | 2087.3477 |
| 9/32 | 1.65824 | 2072.3834 | 1.65903 | 2079.9775 | 1.65982 | 2087.5856 |
| 5/16 | 1.65826 | 2072.6205 | 1.65905 | 2080.2151 | 1.65985 | 2087.8236 |
| 11/32 | 1.65828 | 2072.8576 | 1.65908 | 2080.4526 | 1.65987 | 2088.0616 |
| 3/8 | 1.65831 | 2073.0947 | 1.65910 | 2080.6902 | 1.65990 | 2088.2996 |
| 13/32 | 1.65833 | 2073.3319 | 1.65913 | 2080.9278 | 1.65992 | 2088.5376 |
| 7/16 | 1.65836 | 2073.5690 | 1.65915 | 2081.1654 | 1.65995 | 2088.7756 |
| 15/32 | 1.65838 | 2073.8062 | 1.65918 | 2081.4030 | 1.65997 | 2089.0137 |
| 1/2 | 1.65841 | 2074.0434 | 1.65920 | 2081.6406 | 1.66000 | 2089.2517 |
| 17/32 | 1.65843 | 2074.2806 | 1.65923 | 2081.8783 | 1.66002 | 2089.4898 |
| 9/16 | 1.65846 | 2074.5178 | 1.65925 | 2082.1159 | 1.66004 | 2089.7279 |
| 19/32 | 1.65848 | 2074.7551 | 1.65928 | 2082.3536 | 1.66007 | 2089.9660 |
| 5/8 | 1.65851 | 2074.9923 | 1.65930 | 2082.5913 | 1.66009 | 2090.2041 |
| 21/32 | 1.65853 | 2075.2296 | 1.65933 | 2082.8289 | 1.66012 | 2090.4422 |
| 11/16 | 1.65856 | 2075.4668 | 1.65935 | 2083.0667 | 1.66014 | 2090.6804 |
| 23/32 | 1.65858 | 2075.7041 | 1.65938 | 2083.3044 | 1.66017 | 2090.9185 |
| 3/4 | 1.65861 | 2075.9414 | 1.65940 | 2083.5421 | 1.66019 | 2091.1567 |
| 25/32 | 1.65863 | 2076.1787 | 1.65943 | 2083.7798 | 1.66022 | 2091.3949 |
| 13/16 | 1.65866 | 2076.4160 | 1.65945 | 2084.0176 | 1.66024 | 2091.6331 |
| 27/32 | 1.65868 | 2076.6534 | 1.65948 | 2084.2554 | 1.66027 | 2091.8713 |
| 7/8 | 1.65871 | 2076.8907 | 1.65950 | 2084.4932 | 1.66029 | 2092.1095 |
| 29/32 | 1.65873 | 2077.1281 | 1.65953 | 2084.7310 | 1.66032 | 2092.3477 |
| 15/16 | 1.65876 | 2077.3655 | 1.65955 | 2084.9688 | 1.66034 | 2092.5860 |
| 31/32 | 1.65878 | 2077.6029 | 1.65957 | 2085.2066 | 1.66037 | 2092.8242 |
| 1 | 1.65881 | 2077.8403 | 1.65960 | 2085.4444 | 1.66039 | 2093.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.66039 | 2093.0625 | 1.66118 | 2100.6944 | 1.66197 | 2108.3403 |
| 1/32 | 1.66042 | 2093.3008 | 1.66121 | 2100.9332 | 1.66199 | 2108.5794 |
| 1/16 | 1.66044 | 2093.5391 | 1.66123 | 2101.1719 | 1.66202 | 2108.8186 |
| 3/32 | 1.66047 | 2093.7774 | 1.66126 | 2101.4107 | 1.66204 | 2109.0578 |
| 1/8 | 1.66049 | 2094.0157 | 1.66128 | 2101.6494 | 1.66207 | 2109.2970 |
| 5/32 | 1.66051 | 2094.2541 | 1.66130 | 2101.8882 | 1.66209 | 2109.5362 |
| 3/16 | 1.66054 | 2094.4924 | 1.66133 | 2102.1270 | 1.66212 | 2109.7754 |
| 7/32 | 1.66056 | 2094.7308 | 1.66135 | 2102.3658 | 1.66214 | 2110.0147 |
| 1/4 | 1.66059 | 2094.9692 | 1.66138 | 2102.6046 | 1.66217 | 2110.2539 |
| 9/32 | 1.66061 | 2095.2076 | 1.66140 | 2102.8434 | 1.66219 | 2110.4932 |
| 5/16 | 1.66064 | 2095.4460 | 1.66143 | 2103.0823 | 1.66222 | 2110.7324 |
| 11/32 | 1.66066 | 2095.6844 | 1.66145 | 2103.3211 | 1.66224 | 2110.9717 |
| 3/8 | 1.66069 | 2095.9229 | 1.66148 | 2103.5600 | 1.66227 | 2111.2110 |
| 13/32 | 1.66071 | 2096.1613 | 1.66150 | 2103.7989 | 1.66229 | 2111.4504 |
| 7/16 | 1.66074 | 2096.3998 | 1.66153 | 2104.0378 | 1.66232 | 2111.6897 |
| 15/32 | 1.66076 | 2096.6382 | 1.66155 | 2104.2767 | 1.66234 | 2111.9290 |
| 1/2 | 1.66079 | 2096.8767 | 1.66158 | 2104.5156 | 1.66236 | 2112.1684 |
| 17/32 | 1.66081 | 2097.1152 | 1.66160 | 2104.7546 | 1.66239 | 2112.4078 |
| 9/16 | 1.66084 | 2097.3538 | 1.66163 | 2104.9935 | 1.66241 | 2112.6472 |
| 19/32 | 1.66086 | 2097.5923 | 1.66165 | 2105.2325 | 1.66244 | 2112.8866 |
| 5/8 | 1.66089 | 2097.8308 | 1.66167 | 2105.4715 | 1.66246 | 2113.1260 |
| 21/32 | 1.66091 | 2098.0694 | 1.66170 | 2105.7105 | 1.66249 | 2113.3654 |
| 11/16 | 1.66093 | 2098.3080 | 1.66172 | 2105.9495 | 1.66251 | 2113.6048 |
| 23/32 | 1.66096 | 2098.5466 | 1.66175 | 2106.1885 | 1.66254 | 2113.8443 |
| 3/4 | 1.66098 | 2098.7852 | 1.66177 | 2106.4275 | 1.66256 | 2114.0838 |
| 25/32 | 1.66101 | 2099.0238 | 1.66180 | 2106.6666 | 1.66259 | 2114.3232 |
| 13/16 | 1.66103 | 2099.2624 | 1.66182 | 2106.9056 | 1.66261 | 2114.5627 |
| 27/32 | 1.66106 | 2099.5010 | 1.66185 | 2107.1447 | 1.66263 | 2114.8023 |
| 7/8 | 1.66108 | 2099.7397 | 1.66187 | 2107.3838 | 1.66266 | 2115.0418 |
| 29/32 | 1.66111 | 2099.9784 | 1.66190 | 2107.6229 | 1.66268 | 2115.2813 |
| 15/16 | 1.66113 | 2100.2170 | 1.66192 | 2107.8620 | 1.66271 | 2115.5209 |
| 31/32 | 1.66116 | 2100.4557 | 1.66195 | 2108.1011 | 1.66273 | 2115.7604 |
| 1 | 1.66118 | 2100.6944 | 1.66197 | 2108.3403 | 1.66276 | 2116.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.66276 | 2116.0000 | 1.66354 | 2123.6736 | 1.66433 | 2131.3611 |
| 1/32 | 1.66278 | 2116.2396 | 1.66357 | 2123.9136 | 1.66435 | 2131.6016 |
| 1/16 | 1.66281 | 2116.4792 | 1.66359 | 2124.1537 | 1.66438 | 2131.8420 |
| 3/32 | 1.66283 | 2116.7188 | 1.66362 | 2124.3937 | 1.66440 | 2132.0825 |
| 1/8 | 1.66286 | 2116.9584 | 1.66364 | 2124.6338 | 1.66443 | 2132.3230 |
| 5/32 | 1.66288 | 2117.1981 | 1.66367 | 2124.8739 | 1.66445 | 2132.5635 |
| 3/16 | 1.66291 | 2117.4377 | 1.66369 | 2125.1140 | 1.66448 | 2132.8041 |
| 7/32 | 1.66293 | 2117.6774 | 1.66372 | 2125.3541 | 1.66450 | 2133.0446 |
| 1/4 | 1.66295 | 2117.9171 | 1.66374 | 2125.5942 | 1.66452 | 2133.2852 |
| 9/32 | 1.66298 | 2118.1568 | 1.66376 | 2125.8343 | 1.66455 | 2133.5257 |
| 5/16 | 1.66300 | 2118.3965 | 1.66379 | 2126.0745 | 1.66457 | 2133.7663 |
| 11/32 | 1.66303 | 2118.6362 | 1.66381 | 2126.3146 | 1.66460 | 2134.0069 |
| 3/8 | 1.66305 | 2118.8760 | 1.66384 | 2126.5548 | 1.66462 | 2134.2475 |
| 13/32 | 1.66308 | 2119.1157 | 1.66386 | 2126.7950 | 1.66465 | 2134.4881 |
| 7/16 | 1.66310 | 2119.3555 | 1.66389 | 2127.0352 | 1.66467 | 2134.7288 |
| 15/32 | 1.66313 | 2119.5953 | 1.66391 | 2127.2754 | 1.66470 | 2134.9694 |
| 1/2 | 1.66315 | 2119.8351 | 1.66394 | 2127.5156 | 1.66472 | 2135.2101 |
| 17/32 | 1.66318 | 2120.0749 | 1.66396 | 2127.7559 | 1.66474 | 2135.4507 |
| 9/16 | 1.66320 | 2120.3147 | 1.66399 | 2127.9961 | 1.66477 | 2135.6914 |
| 19/32 | 1.66322 | 2120.5545 | 1.66401 | 2128.2364 | 1.66479 | 2135.9321 |
| 5/8 | 1.66325 | 2120.7944 | 1.66403 | 2128.4767 | 1.66482 | 2136.1729 |
| 21/32 | 1.66327 | 2121.0342 | 1.66406 | 2128.7170 | 1.66484 | 2136.4136 |
| 11/16 | 1.66330 | 2121.2741 | 1.66408 | 2128.9573 | 1.66487 | 2136.6543 |
| 23/32 | 1.66332 | 2121.5140 | 1.66411 | 2129.1976 | 1.66489 | 2136.8951 |
| 3/4 | 1.66335 | 2121.7539 | 1.66413 | 2129.4379 | 1.66492 | 2137.1359 |
| 25/32 | 1.66337 | 2121.9938 | 1.66416 | 2129.6783 | 1.66494 | 2137.3766 |
| 13/16 | 1.66340 | 2122.2338 | 1.66418 | 2129.9186 | 1.66496 | 2137.6174 |
| 27/32 | 1.66342 | 2122.4737 | 1.66421 | 2130.1590 | 1.66499 | 2137.8582 |
| 7/8 | 1.66345 | 2122.7136 | 1.66423 | 2130.3994 | 1.66501 | 2138.0991 |
| 29/32 | 1.66347 | 2122.9536 | 1.66426 | 2130.6398 | 1.66504 | 2138.3399 |
| 15/16 | 1.66349 | 2123.1936 | 1.66428 | 2130.8802 | 1.66506 | 2138.5808 |
| 31/32 | 1.66352 | 2123.4336 | 1.66430 | 2131.1207 | 1.66509 | 2138.8216 |
| 1 | 1.66354 | 2123.6736 | 1.66433 | 2131.3611 | 1.66511 | 2139.0625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.66511 | 2139.0625 | 1.66589 | 2146.7778 | 1.66667 | 2154.5069 |
| 1/32 | 1.66514 | 2139.3034 | 1.66592 | 2147.0191 | 1.66670 | 2154.7487 |
| 1/16 | 1.66516 | 2139.5443 | 1.66594 | 2147.2604 | 1.66672 | 2154.9905 |
| 3/32 | 1.66519 | 2139.7852 | 1.66597 | 2147.5018 | 1.66675 | 2155.2323 |
| 1/8 | 1.66521 | 2140.0262 | 1.66599 | 2147.7432 | 1.66677 | 2155.4741 |
| 5/32 | 1.66523 | 2140.2671 | 1.66602 | 2147.9845 | 1.66680 | 2155.7159 |
| 3/16 | 1.66526 | 2140.5081 | 1.66604 | 2148.2259 | 1.66682 | 2155.9577 |
| 7/32 | 1.66528 | 2140.7490 | 1.66606 | 2148.4673 | 1.66684 | 2156.1996 |
| 1/4 | 1.66531 | 2140.9900 | 1.66609 | 2148.7088 | 1.66687 | 2156.4414 |
| 9/32 | 1.66533 | 2141.2310 | 1.66611 | 2148.9502 | 1.66689 | 2156.6833 |
| 5/16 | 1.66536 | 2141.4720 | 1.66614 | 2149.1917 | 1.66692 | 2156.9252 |
| 11/32 | 1.66538 | 2141.7131 | 1.66616 | 2149.4331 | 1.66694 | 2157.1671 |
| 3/8 | 1.66541 | 2141.9541 | 1.66619 | 2149.6746 | 1.66697 | 2157.4090 |
| 13/32 | 1.66543 | 2142.1952 | 1.66621 | 2149.9161 | 1.66699 | 2157.6509 |
| 7/16 | 1.66545 | 2142.4362 | 1.66624 | 2150.1576 | 1.66701 | 2157.8928 |
| 15/32 | 1.66548 | 2142.6773 | 1.66626 | 2150.3991 | 1.66704 | 2158.1348 |
| 1/2 | 1.66550 | 2142.9184 | 1.66628 | 2150.6406 | 1.66706 | 2158.3767 |
| 17/32 | 1.66553 | 2143.1595 | 1.66631 | 2150.8822 | 1.66709 | 2158.6187 |
| 9/16 | 1.66555 | 2143.4006 | 1.66633 | 2151.1237 | 1.66711 | 2158.8607 |
| 19/32 | 1.66558 | 2143.6418 | 1.66636 | 2151.3653 | 1.66714 | 2159.1027 |
| 5/8 | 1.66560 | 2143.8829 | 1.66638 | 2151.6069 | 1.66716 | 2159.3447 |
| 21/32 | 1.66562 | 2144.1241 | 1.66641 | 2151.8485 | 1.66719 | 2159.5868 |
| 11/16 | 1.66565 | 2144.3653 | 1.66643 | 2152.0901 | 1.66721 | 2159.8288 |
| 23/32 | 1.66567 | 2144.6065 | 1.66645 | 2152.3317 | 1.66723 | 2160.0709 |
| 3/4 | 1.66570 | 2144.8477 | 1.66648 | 2152.5734 | 1.66726 | 2160.3129 |
| 25/32 | 1.66572 | 2145.0889 | 1.66650 | 2152.8150 | 1.66728 | 2160.5550 |
| 13/16 | 1.66575 | 2145.3301 | 1.66653 | 2153.0567 | 1.66731 | 2160.7971 |
| 27/32 | 1.66577 | 2145.5713 | 1.66655 | 2153.2983 | 1.66733 | 2161.0392 |
| 7/8 | 1.66580 | 2145.8126 | 1.66658 | 2153.5400 | 1.66736 | 2161.2814 |
| 29/32 | 1.66582 | 2146.0539 | 1.66660 | 2153.7817 | 1.66738 | 2161.5235 |
| 15/16 | 1.66584 | 2146.2952 | 1.66663 | 2154.0235 | 1.66740 | 2161.7657 |
| 31/32 | 1.66587 | 2146.5365 | 1.66665 | 2154.2652 | 1.66743 | 2162.0078 |
| 1 | 1.66589 | 2146.7778 | 1.66667 | 2154.5069 | 1.66745 | 2162.2500 |

| Fractions of an Inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.66745 | 2162.2500 | 1.66823 | 2170.0069 | 1.66901 | 2177.7778 |
| 1/32 | 1.66748 | 2162.4922 | 1.66825 | 2170.2496 | 1.66903 | 2178.0208 |
| 1/16 | 1.66750 | 2162.7344 | 1.66828 | 2170.4922 | 1.66906 | 2178.2639 |
| 3/32 | 1.66753 | 2162.9766 | 1.66830 | 2170.7349 | 1.66908 | 2178.5070 |
| 1/8 | 1.66755 | 2163.2189 | 1.66833 | 2170.9775 | 1.66910 | 2178.7501 |
| 5/32 | 1.66757 | 2163.4611 | 1.66835 | 2171.2202 | 1.66913 | 2178.9932 |
| 3/16 | 1.66760 | 2163.7034 | 1.66838 | 2171.4629 | 1.66915 | 2179.2364 |
| 7/32 | 1.66762 | 2163.9456 | 1.66840 | 2171.7056 | 1.66918 | 2179.4795 |
| 1/4 | 1.66765 | 2164.1879 | 1.66842 | 2171.9484 | 1.66920 | 2179.7227 |
| 9/32 | 1.66767 | 2164.4302 | 1.66845 | 2172.1911 | 1.66922 | 2179.9658 |
| 5/16 | 1.66770 | 2164.6726 | 1.66847 | 2172.4338 | 1.66925 | 2180.2090 |
| 11/32 | 1.66772 | 2164.9149 | 1.66850 | 2172.6766 | 1.66927 | 2180.4522 |
| 3/8 | 1.66774 | 2165.1572 | 1.66852 | 2172.9194 | 1.66930 | 2180.6954 |
| 13/32 | 1.66777 | 2165.3996 | 1.66855 | 2173.1622 | 1.66932 | 2180.9386 |
| 7/16 | 1.66779 | 2165.6420 | 1.66857 | 2173.4050 | 1.66935 | 2181.1819 |
| 15/32 | 1.66782 | 2165.8843 | 1.66859 | 2173.6478 | 1.66937 | 2181.4251 |
| 1/2 | 1.66784 | 2166.1267 | 1.66862 | 2173.8906 | 1.66939 | 2181.6684 |
| 17/32 | 1.66787 | 2166.3691 | 1.66864 | 2174.1335 | 1.66942 | 2181.9117 |
| 9/16 | 1.66789 | 2166.6116 | 1.66867 | 2174.3763 | 1.66944 | 2182.1550 |
| 19/32 | 1.66791 | 2166.8540 | 1.66869 | 2174.6192 | 1.66947 | 2182.3983 |
| 5/8 | 1.66794 | 2167.0965 | 1.66872 | 2174.8621 | 1.66949 | 2182.6416 |
| 21/32 | 1 66796 | 2167.3389 | 1.66874 | 2175.1050 | 1.66952 | 2182.8849 |
| 11/16 | 1.66799 | 2167.5814 | 1.66876 | 2175.3479 | 1.66954 | 2183.1283 |
| 23/32 | 1.66801 | 2167.8239 | 1.66879 | 2175.5908 | 1.66956 | 2183.3716 |
| 3/4 | 1.66804 | 2168.0664 | 1.66881 | 2175.8338 | 1.66959 | 2183.6150 |
| 25/32 | 1.66806 | 2168.3089 | 1.66884 | 2176.0767 | 1.66961 | 2183.8584 |
| 13/16 | 1.66808 | 2168.5515 | 1.66886 | 2176.3197 | 1.66964 | 2184.1018 |
| 27/32 | 1.66811 | 2168.7940 | 1.66889 | 2176.5627 | 1.66966 | 2184.3452 |
| 7/8 | 1.66813 | 2169.0366 | 1.66891 | 2176.8057 | 1.66968 | 2184.5887 |
| 29/32 | 1.66816 | 2169.2791 | 1.66893 | 2177.0487 | 1.66971 | 2184.8321 |
| 15/16 | 1.66818 | 2169.5217 | 1.66896 | 2177.2917 | 1.66973 | 2185.0755 |
| 31/32 | 1.66821 | 2169.7643 | 1.66898 | 2177.5347 | 1.66976 | 2185.3190 |
| 1 | 1.66823 | 2170.0069 | 1.66901 | 2177.7778 | 1.66978 | 2185.5625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.66978 | 2185.5625 | 1.67056 | 2193.3611 | 1.67133 | 2201.1736 |
| 1/32 | 1.66981 | 2185.8060 | 1.67058 | 2193.6050 | 1.67135 | 2201.4180 |
| 1/16 | 1.66983 | 2186.0495 | 1.67060 | 2193.8490 | 1.67138 | 2201.6624 |
| 3/32 | 1.66985 | 2186.2930 | 1.67063 | 2194.0929 | 1.67140 | 2201.9067 |
| 1/8 | 1.66988 | 2186.5366 | 1.67065 | 2194.3369 | 1.67142 | 2202.1512 |
| 5/32 | 1.66990 | 2186.7801 | 1.67068 | 2194.5809 | 1.67145 | 2202.3956 |
| 3/16 | 1.66993 | 2187.0237 | 1.67070 | 2194.8249 | 1.67147 | 2202.6400 |
| 7/32 | 1.66995 | 2187.2673 | 1.67072 | 2195.0689 | 1.67150 | 2202.8844 |
| 1/4 | 1.66998 | 2187.5109 | 1.67075 | 2195.3129 | 1.67152 | 2203.1289 |
| 9/32 | 1.67000 | 2187.7545 | 1.67077 | 2195.5570 | 1.67154 | 2203.3734 |
| 5/16 | 1.67002 | 2187.9981 | 1.67080 | 2195.8010 | 1.67157 | 2203.6179 |
| 11/32 | 1.67005 | 2188.2417 | 1.67082 | 2196.0451 | 1.67159 | 2203.8624 |
| 3/8 | 1.67007 | 2188.4854 | 1.67084 | 2196.2892 | 1.67162 | 2204.1069 |
| 13/32 | 1.67010 | 2188.7290 | 1.67087 | 2196.5333 | 1.67164 | 2204.3514 |
| 7/16 | 1.67012 | 2188.9727 | 1.67089 | 2196.7774 | 1.67166 | 2204.5959 |
| 15/32 | 1.67014 | 2189.2164 | 1.67092 | 2197.0215 | 1.67169 | 2204.8405 |
| 1/2 | 1.67017 | 2189.4601 | 1.67094 | 2197.2656 | 1.67171 | 2205.0851 |
| 17/32 | 1.67019 | 2189.7038 | 1.67097 | 2197.5098 | 1.67174 | 2205.3297 |
| 9/16 | 1.67022 | 2189.9475 | 1.67099 | 2197.7539 | 1.67176 | 2205.5742 |
| 19/32 | 1.67024 | 2190.1913 | 1.67101 | 2197.9981 | 1.67178 | 2205.8189 |
| 5/8 | 1.67027 | 2190.4350 | 1.67104 | 2198.2423 | 1.67181 | 2206.0635 |
| 21/32 | 1.67029 | 2190.6788 | 1.67106 | 2198.4865 | 1.67183 | 2206.3081 |
| 11/16 | 1.67031 | 2190.9226 | 1.67109 | 2198.7307 | 1.67186 | 2206.5528 |
| 23/32 | 1.67034 | 2191.1663 | 1.67111 | 2198.9749 | 1.67188 | 2206.7974 |
| 3/4 | 1.67036 | 2191.4102 | 1.67113 | 2199.2192 | 1.67191 | 2207.0421 |
| 25/32 | 1.67039 | 2191.6540 | 1.67116 | 2199.4634 | 1.67193 | 2207.2868 |
| 13/16 | 1.67041 | 2191.8978 | 1.67118 | 2199.7077 | 1.67195 | 2207.5315 |
| 27/32 | 1.67043 | 2192.1417 | 1.67121 | 2199.9520 | 1.67198 | 2207.7762 |
| 7/8 | 1.67046 | 2192.3855 | 1.67123 | 2200.1963 | 1.67200 | 2208.0209 |
| 29/32 | 1.67048 | 2192.6294 | 1.67125 | 2200.4406 | 1.67203 | 2208.2657 |
| 15/16 | 1.67051 | 2192.8733 | 1.67128 | 2200.6849 | 1.67205 | 2208.5104 |
| 31/32 | 1.67053 | 2193.1172 | 1.67130 | 2200.9293 | 1.67207 | 2208.7552 |
| 1 | 1.67056 | 2193.3611 | 1.67133 | 2201.1736 | 1.67210 | 2209.0000 |

| Fractions of an inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.67210 | 2209.0000 | 1.67287 | 2216.8403 | 1.67364 | 2224.6944 |
| 1/32 | 1.67212 | 2209.2448 | 1.67289 | 2217.0855 | 1.67366 | 2224.9401 |
| 1/16 | 1.67215 | 2209.4896 | 1.67292 | 2217.3308 | 1.67368 | 2225.1858 |
| 3/32 | 1.67217 | 2209.7344 | 1.67294 | 2217.5760 | 1.67371 | 2225.4315 |
| 1/8 | 1.67219 | 2209.9793 | 1.67296 | 2217.8213 | 1.67373 | 2225.6772 |
| 5/32 | 1.67222 | 2210.2241 | 1.67299 | 2218.0666 | 1.67376 | 2225.9229 |
| 3/16 | 1.67224 | 2210.4690 | 1.67301 | 2218.3119 | 1.67378 | 2226.1686 |
| 7/32 | 1.67227 | 2210.7139 | 1.67304 | 2218.5572 | 1.67380 | 2226.4144 |
| 1/4 | 1.67229 | 2210.9588 | 1.67306 | 2218.8025 | 1.67383 | 2226.6602 |
| 9/32 | 1.67231 | 2211.2037 | 1.67308 | 2219.0479 | 1.67385 | 2226.9059 |
| 5/16 | 1.67234 | 2211.4486 | 1.67311 | 2219.2932 | 1.67387 | 2227.1517 |
| 11/32 | 1.67236 | 2211.6935 | 1.67313 | 2219.5386 | 1.67390 | 2227.3975 |
| 3/8 | 1.67239 | 2211.9385 | 1.67316 | 2219.7840 | 1.67392 | 2227.6433 |
| 13/32 | 1.67241 | 2212.1834 | 1.67318 | 2220.0294 | 1.67395 | 2227.8892 |
| 7/16 | 1.67243 | 2212.4284 | 1.67320 | 2220.2748 | 1.67397 | 2228.1350 |
| 15/32 | 1.67246 | 2212.6734 | 1.67323 | 2220.5202 | 1.67399 | 2228.3809 |
| 1/2 | 1.67248 | 2212.9184 | 1.67325 | 2220.7656 | 1.67402 | 2228.6267 |
| 17/32 | 1.67251 | 2213.1634 | 1.67328 | 2221.0111 | 1.67404 | 2228.8726 |
| 9/16 | 1.67253 | 2213.4084 | 1.67330 | 2221.2565 | 1.67407 | 2229.1185 |
| 19/32 | 1.67255 | 2213.6535 | 1.67332 | 2221.5020 | 1.67409 | 2229.3644 |
| 5/8 | 1.67258 | 2213.8985 | 1.67335 | 2221.7475 | 1.67411 | 2229.6104 |
| 21/32 | 1.67260 | 2214.1436 | 1.67337 | 2221.9930 | 1.67414 | 2229.8563 |
| 11/16 | 1.67263 | 2214.3887 | 1.67340 | 2222.2385 | 1.67416 | 2230.1022 |
| 23/32 | 1.67265 | 2214.6338 | 1.67342 | 2222.4841 | 1.67419 | 2230.3482 |
| 3/4 | 1.67267 | 2214.8789 | 1.67344 | 2222.7296 | 1.67421 | 2230.5942 |
| 25/32 | 1.67270 | 2215.1240 | 1.67347 | 2222.9752 | 1.67423 | 2230.8402 |
| 13/16 | 1.67272 | 2215.3692 | 1.67349 | 2223.2207 | 1.67426 | 2231.0862 |
| 27/32 | 1.67275 | 2215.6143 | 1.67352 | 2223.4663 | 1.67428 | 2231.3322 |
| 7/8 | 1.67277 | 2215.8595 | 1.67354 | 2223.7119 | 1.67431 | 2231.5782 |
| 29/32 | 1.67280 | 2216.1047 | 1.67356 | 2223.9575 | 1.67433 | 2231.8243 |
| 15/16 | 1.67282 | 2216.3499 | 1.67359 | 2224.2032 | 1.67435 | 2232.0703 |
| 31/32 | 1.67284 | 2216.5951 | 1.67361 | 2224.4488 | 1.67438 | 2232.3164 |
| 1 | 1.67287 | 2216.8403 | 1.67364 | 2224.6944 | 1.67440 | 2232.5625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.67440 | 2232.5625 | 1.67517 | 2240.4444 | 1.67593 | 2248.3403 |
| 1/32 | 1.67443 | 2232.8086 | 1.67519 | 2240.6910 | 1.67595 | 2248.5872 |
| 1/16 | 1.67445 | 2233.0547 | 1.67521 | 2240.9375 | 1.67598 | 2248.8342 |
| 3/32 | 1.67447 | 2233.3008 | 1.67524 | 2241.1841 | 1.67600 | 2249.0812 |
| 1/8 | 1.67450 | 2233.5470 | 1.67526 | 2241.4307 | 1.67603 | 2249.3282 |
| 5/32 | 1.67452 | 2233.7931 | 1.67529 | 2241.6773 | 1.67605 | 2249.5753 |
| 3/16 | 1.67455 | 2234.0393 | 1.67531 | 2241.9239 | 1.67607 | 2249.8223 |
| 7/32 | 1.67457 | 2234.2855 | 1.67533 | 2242.1705 | 1.67610 | 2250.0693 |
| 1/4 | 1.67459 | 2234.5317 | 1.67536 | 2242.4171 | 1.67612 | 2250.3164 |
| 9/32 | 1.67462 | 2234.7779 | 1.67538 | 2242.6637 | 1.67615 | 2250.5635 |
| 5/16 | 1.67464 | 2235.0241 | 1.67541 | 2242.9104 | 1.67617 | 2250.8106 |
| 11/32 | 1.67467 | 2235.2704 | 1.67543 | 2243.1571 | 1.67619 | 2251.0577 |
| 3/8 | 1.67469 | 2235.5166 | 1.67545 | 2243.4038 | 1.67622 | 2251.3048 |
| 13/32 | 1.67471 | 2235.7629 | 1.67548 | 2243.6505 | 1.67624 | 2251.5519 |
| 7/16 | 1.67474 | 2236.0091 | 1.67550 | 2243.8972 | 1.67626 | 2251.7991 |
| 15/32 | 1.67476 | 2236.2554 | 1.67553 | 2244.1439 | 1.67629 | 2252.0462 |
| 1/2 | 1.67478 | 2236.5017 | 1.67555 | 2244.3906 | 1.67631 | 2252.2934 |
| 17/32 | 1.67481 | 2236.7481 | 1.67557 | 2244.6374 | 1.67634 | 2252.5406 |
| 9/16 | 1.67483 | 2236.9944 | 1.67560 | 2244.8841 | 1.67636 | 2252.7878 |
| 19/32 | 1.67486 | 2237.2407 | 1.67562 | 2245.1309 | 1.67638 | 2253.0350 |
| 5/8 | 1.67488 | 2237.4871 | 1.67564 | 2245.3777 | 1.67641 | 2253.2822 |
| 21/32 | 1.67490 | 2237.7335 | 1.67567 | 2245.6245 | 1.67643 | 2253.5295 |
| 11/16 | 1.67493 | 2237.9798 | 1.67569 | 2245.8713 | 1.67646 | 2253.7767 |
| 23/32 | 1.67495 | 2238.2262 | 1.67572 | 2246.1182 | 1.67648 | 2254.0240 |
| 3/4 | 1.67498 | 2238.4727 | 1.67574 | 2246.3650 | 1.67650 | 2254.2713 |
| 25/32 | 1.67500 | 2238.7191 | 1.67576 | 2246.6119 | 1.67653 | 2254.5186 |
| 13/16 | 1.67502 | 2238.9655 | 1.67579 | 2246.8588 | 1.67655 | 2254.7659 |
| 27/32 | 1.67505 | 2239.2120 | 1.67581 | 2247.1056 | 1.67657 | 2255.0132 |
| 7/8 | 1.67507 | 2239.4584 | 1.67584 | 2247.3525 | 1.67660 | 2255.2605 |
| 29/32 | 1.67510 | 2239.7049 | 1.67586 | 2247.5995 | 1.67662 | 2255.5079 |
| 15/16 | 1.67512 | 2239.9514 | 1.67588 | 2247.8464 | 1.67665 | 2255.7552 |
| 31/32 | 1.67514 | 2240.1979 | 1.67591 | 2248.0933 | 1.67667 | 2256.0026 |
| 1 | 1.67517 | 2240.4444 | 1.67593 | 2248.3403 | 1.67669 | 2256.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.67669 | 2256.2500 | 1.67745 | 2264.1736 | 1.67821 | 2272.1111 |
| 1/32 | 1.67672 | 2256.4974 | 1.67748 | 2264.4214 | 1.67824 | 2272.3594 |
| 1/16 | 1.67674 | 2256.7448 | 1.67750 | 2264.6693 | 1.67826 | 2272.6077 |
| 3/32 | 1.67677 | 2256.9922 | 1.67753 | 2264.9172 | 1.67829 | 2272.8560 |
| 1/8 | 1.67679 | 2257.2397 | 1.67755 | 2265.1650 | 1.67831 | 2273.1043 |
| 5/32 | 1.67681 | 2257.4871 | 1.67757 | 2265.4129 | 1.67833 | 2273.3526 |
| 3/16 | 1.67684 | 2257.7346 | 1.67760 | 2265.6608 | 1.67836 | 2273.6009 |
| 7/32 | 1.67686 | 2257.9821 | 1.67762 | 2265.9088 | 1.67838 | 2273.8493 |
| 1/4 | 1.67688 | 2258.2296 | 1.67764 | 2266.1567 | 1.67840 | 2274.0977 |
| 9/32 | 1.67691 | 2258.4771 | 1.67767 | 2266.4046 | 1.67843 | 2274.3460 |
| 5/16 | 1.67693 | 2258.7246 | 1.67769 | 2266.6526 | 1.67845 | 2274.5944 |
| 11/32 | 1.67696 | 2258.9722 | 1.67772 | 2266.9006 | 1.67848 | 2274.8428 |
| 3/8 | 1.67698 | 2259.2197 | 1.67774 | 2267.1485 | 1.67850 | 2275.0913 |
| 13/32 | 1.67700 | 2259.4673 | 1.67776 | 2267.3965 | 1.67852 | 2275.3397 |
| 7/16 | 1.67703 | 2259.7149 | 1.67779 | 2267.6446 | 1.67855 | 2275.5881 |
| 15/32 | 1.67705 | 2259.9625 | 1.67781 | 2267.8926 | 1.67857 | 2275.8366 |
| 1/2 | 1.67707 | 2260.2101 | 1.67783 | 2268.1406 | 1.67859 | 2276.0851 |
| 17/32 | 1.67710 | 2260.4577 | 1.67786 | 2268.3887 | 1.67862 | 2276.3336 |
| 9/16 | 1.67712 | 2260.7053 | 1.67788 | 2268.6367 | 1.67864 | 2276.5821 |
| 19/32 | 1.67715 | 2260.9530 | 1.67791 | 2268.8848 | 1.67867 | 2276.8306 |
| 5/8 | 1.67717 | 2261.2006 | 1.67793 | 2269.1329 | 1.67869 | 2277.0791 |
| 21/32 | 1 67719 | 2261.4483 | 1.67795 | 2269.3810 | 1.67871 | 2277.3276 |
| 11/16 | 1.67722 | 2261.6960 | 1.67798 | 2269.6292 | 1.67874 | 2277.5762 |
| 23/32 | 1.67724 | 2261.9437 | 1.67800 | 2269.8773 | 1.67876 | 2277.8248 |
| 3/4 | 1.67726 | 2262.1914 | 1.67802 | 2270.1254 | 1.67878 | 2278.0734 |
| 25/32 | 1.67729 | 2262.4391 | 1.67805 | 2270.3736 | 1.67881 | 2278.3219 |
| 13/16 | 1.67731 | 2262.6869 | 1.67807 | 2270.6218 | 1.67883 | 2278.5706 |
| 27/32 | 1.67734 | 2262.9346 | 1.67810 | 2270.8700 | 1.67885 | 2278.8192 |
| 7/8 | 1.67736 | 2263.1824 | 1.67812 | 2271.1182 | 1.67888 | 2279.0678 |
| 29/32 | 1.67738 | 2263.4302 | 1.67814 | 2271.3664 | 1.67890 | 2279.3165 |
| 15/16 | 1.67741 | 2263.6780 | 1.67817 | 2271.6146 | 1.67893 | 2279.5651 |
| 31/32 | 1.67743 | 2263.9258 | 1.67819 | 2271.8629 | 1.67895 | 2279.8138 |
| 1 | 1.67745 | 2264.1736 | 1.67821 | 2272.1111 | 1.67897 | 2280.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.67897 | 2280.0625 | 1.67973 | 2288.0278 | 1.68049 | 2296.0069 |
| 1/32 | 1.67900 | 2280.3112 | 1.67975 | 2288.2769 | 1.68051 | 2296.2565 |
| 1/16 | 1.67902 | 2280.5599 | 1.67978 | 2288.5261 | 1.68053 | 2296.5061 |
| 3/32 | 1.67904 | 2280.8087 | 1.67980 | 2288.7752 | 1.68056 | 2296.7557 |
| 1/8 | 1.67907 | 2281.0574 | 1.67983 | 2289.0244 | 1.68058 | 2297.0053 |
| 5/32 | 1.67909 | 2281.3062 | 1.67985 | 2289.2736 | 1.68060 | 2297.2549 |
| 3/16 | 1.67912 | 2281.5549 | 1.67987 | 2289.5228 | 1.68063 | 2297.5046 |
| 7/32 | 1.67914 | 2281.8037 | 1.67990 | 2289.7720 | 1.68065 | 2297.7542 |
| 1/4 | 1.67916 | 2282.0525 | 1.67992 | 2290.0213 | 1.68068 | 2298.0039 |
| 9/32 | 1.67919 | 2282.3013 | 1.67994 | 2290.2705 | 1.68070 | 2298.2536 |
| 5/16 | 1.67921 | 2282.5502 | 1.67997 | 2290.5198 | 1.68072 | 2298.5033 |
| 11/32 | 1.67923 | 2282.7990 | 1.67999 | 2290.7690 | 1.68075 | 2298.7530 |
| 3/8 | 1.67926 | 2283.0479 | 1.68001 | 2291.0183 | 1.68077 | 2299.0027 |
| 13/32 | 1.67928 | 2283.2967 | 1.68004 | 2291.2676 | 1.68079 | 2299.2524 |
| 7/16 | 1.67930 | 2283.5456 | 1.68006 | 2291.5170 | 1.68082 | 2299.5022 |
| 15/32 | 1.67933 | 2283.7945 | 1.68009 | 2291.7663 | 1.68084 | 2299.7520 |
| 1/2 | 1.67935 | 2284.0434 | 1.68011 | 2292.0156 | 1.68086 | 2300.0017 |
| 17/32 | 1.67938 | 2284.2923 | 1.68013 | 2292.2650 | 1.68089 | 2300.2515 |
| 9/16 | 1.67940 | 2284.5413 | 1.68016 | 2292.5144 | 1.68091 | 2300.5013 |
| 19/32 | 1.67942 | 2284.7902 | 1.68018 | 2292.7637 | 1.68093 | 2300.7511 |
| 5/8 | 1.67945 | 2285.0392 | 1.68020 | 2293.0131 | 1.68096 | 2301.0010 |
| 21/32 | 1.67947 | 2285.2881 | 1.68023 | 2293.2625 | 1.68098 | 2301.2508 |
| 11/16 | 1.67949 | 2285.5371 | 1.68025 | 2293.5120 | 1.68101 | 2301.5007 |
| 23/32 | 1.67952 | 2285.7861 | 1.68027 | 2293.7614 | 1.68103 | 2301.7505 |
| 3/4 | 1.67954 | 2286.0352 | 1.68030 | 2294.0109 | 1.68105 | 2302.0004 |
| 25/32 | 1.67957 | 2286.2842 | 1.68032 | 2294.2603 | 1.68108 | 2302.2503 |
| 13/16 | 1.67959 | 2286.5332 | 1.68034 | 2294.5098 | 1.68110 | 2302.5002 |
| 27/32 | 1.67961 | 2286.7823 | 1.68037 | 2294.7593 | 1.68112 | 2302.7502 |
| 7/8 | 1.67964 | 2287.0314 | 1.68039 | 2295.0088 | 1.68115 | 2303.0001 |
| 29/32 | 1.67966 | 2287.2804 | 1.68042 | 2295.2583 | 1.68117 | 2303.2501 |
| 15/16 | 1.67968 | 2287.5295 | 1.68044 | 2295.5078 | 1.68119 | 2303.5000 |
| 31/32 | 1.67971 | 2287.7787 | 1.68046 | 2295.7574 | 1.68122 | 2303.7500 |
| 1 | 1.67973 | 2288.0278 | 1.68049 | 2296.0069 | 1.68124 | 2304.0000 |

| Fractions of an inch. | 0" | | 1" | | 2" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.68124 | 2304.0000 | 1.68199 | 2312.0069 | 1.68275 | 2320.0278 |
| 1/32 | 1.68126 | 2304.2500 | 1.68202 | 2312.2574 | 1.68277 | 2320.2787 |
| 1/16 | 1.68129 | 2304.5000 | 1.68204 | 2312.5078 | 1.68279 | 2320.5295 |
| 3/32 | 1.68131 | 2304.7501 | 1.68207 | 2312.7583 | 1.68282 | 2320.7804 |
| 1/8 | 1.68134 | 2305.0001 | 1.68209 | 2313.0088 | 1.68284 | 2321.0314 |
| 5/32 | 1.68136 | 2305.2502 | 1.68211 | 2313.2593 | 1.68286 | 2321.2823 |
| 3/16 | 1.68138 | 2305.5002 | 1.68214 | 2313.5098 | 1.68289 | 2321.5332 |
| 7/32 | 1.68141 | 2305.7503 | 1.68216 | 2313.7603 | 1.68291 | 2321.7842 |
| 1/4 | 1.68143 | 2306.0004 | 1.68218 | 2314.0109 | 1.68293 | 2322.0352 |
| 9/32 | 1.68145 | 2306.2505 | 1.68221 | 2314.2614 | 1.68296 | 2322.2861 |
| 5/16 | 1.68148 | 2306.5007 | 1.68223 | 2314.5120 | 1.68298 | 2322.5371 |
| 11/32 | 1.68150 | 2306.7508 | 1.68225 | 2314.7625 | 1.68300 | 2322.7881 |
| 3/8 | 1.68152 | 2307.0010 | 1.68228 | 2315.0131 | 1.68303 | 2323.0392 |
| 13/32 | 1.68155 | 2307.2511 | 1.68230 | 2315.2637 | 1.68305 | 2323.2902 |
| 7/16 | 1.68157 | 2307.5013 | 1.68232 | 2315.5143 | 1.68308 | 2323.5413 |
| 15/32 | 1.68159 | 2307.7515 | 1.68235 | 2315.7650 | 1.68310 | 2323.7923 |
| 1/2 | 1.68162 | 2308.0017 | 1.68237 | 2316.0156 | 1.68312 | 2324.0434 |
| 17/32 | 1.68164 | 2308.2520 | 1.68239 | 2316.2663 | 1.68315 | 2324.2945 |
| 9/16 | 1.68167 | 2308.5022 | 1.68242 | 2316.5170 | 1.68317 | 2324.5456 |
| 19/32 | 1.68169 | 2308.7524 | 1.68244 | 2316.7676 | 1.68319 | 2324.7967 |
| 5/8 | 1.68171 | 2309.0027 | 1.68246 | 2317.0183 | 1.68322 | 2325.0479 |
| 21/32 | 1.68174 | 2309.2530 | 1.68249 | 2317.2690 | 1.68324 | 2325.2990 |
| 11/16 | 1.68176 | 2309.5033 | 1.68251 | 2317.5198 | 1.68326 | 2325.5502 |
| 23/32 | 1.68178 | 2309.7536 | 1.68254 | 2317.7705 | 1.68329 | 2325.8013 |
| 3/4 | 1.68181 | 2310.0039 | 1.68256 | 2318.0213 | 1.68331 | 2326.0525 |
| 25/32 | 1.68183 | 2310.2542 | 1.68258 | 2318.2720 | 1.68333 | 2326.3037 |
| 13/16 | 1.68185 | 2310.5046 | 1.68261 | 2318.5228 | 1.68336 | 2326.5549 |
| 27/32 | 1.68188 | 2310.7549 | 1.68263 | 2318.7736 | 1.68338 | 2326.8062 |
| 7/8 | 1.68190 | 2311.0053 | 1.68265 | 2319.0244 | 1.68340 | 2327.0574 |
| 29/32 | 1.68192 | 2311.2557 | 1.68268 | 2319.2752 | 1.68343 | 2327.3087 |
| 15/16 | 1.68195 | 2311.5061 | 1.68270 | 2319.5261 | 1.68345 | 2327.5599 |
| 31/32 | 1.68197 | 2311.7565 | 1.68272 | 2319.7769 | 1.68347 | 2327.8112 |
| 1 | 1.68199 | 2312.0069 | 1.68275 | 2320.0278 | 1.68350 | 2328.0625 |

| Fractions of an Inch. | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.68350 | 2328.0625 | 1.68425 | 2336.1111 | 1.68499 | 2344.1736 |
| 1/32 | 1.68352 | 2328.3138 | 1.68427 | 2336.3629 | 1.68502 | 2344.4258 |
| 1/16 | 1.68354 | 2328.5651 | 1.68429 | 2336.6146 | 1.68504 | 2344.6780 |
| 3/32 | 1.68357 | 2328.8165 | 1.68432 | 2336.8664 | 1.68506 | 2344.9302 |
| 1/8 | 1.68359 | 2329.0678 | 1.68434 | 2337.1182 | 1.68509 | 2345.1824 |
| 5/32 | 1.68361 | 2329.3192 | 1.68436 | 2337.3700 | 1.68511 | 2345.4346 |
| 3/16 | 1.68364 | 2329.5706 | 1.68439 | 2337.6218 | 1.68514 | 2345.6869 |
| 7/32 | 1.68366 | 2329.8219 | 1.68441 | 2337.8736 | 1.68516 | 2345.9391 |
| 1/4 | 1.68368 | 2330.0734 | 1.68443 | 2338.1254 | 1.68518 | 2346.1914 |
| 9/32 | 1.68371 | 2330.3248 | 1.68446 | 2338.3773 | 1.68521 | 2346.4437 |
| 5/16 | 1.68373 | 2330.5762 | 1.68448 | 2338.6292 | 1.68523 | 2346.6960 |
| 11/32 | 1.68376 | 2330.8276 | 1.68450 | 2338.8810 | 1.68525 | 2346.9483 |
| 3/8 | 1.68378 | 2331.0791 | 1.68453 | 2339.1329 | 1.68528 | 2347.2006 |
| 13/32 | 1.68380 | 2331.3306 | 1.68455 | 2339.3848 | 1.68530 | 2347.4530 |
| 7/16 | 1.68383 | 2331.5821 | 1.68457 | 2339.6367 | 1.68532 | 2347.7053 |
| 15/32 | 1.68385 | 2331.8336 | 1.68460 | 2339.8887 | 1.68535 | 2347.9577 |
| 1/2 | 1.68387 | 2332.0851 | 1.68462 | 2340.1406 | 1.68537 | 2348.2101 |
| 17/32 | 1.68390 | 2332.3366 | 1.68464 | 2340.3926 | 1.68539 | 2348.4625 |
| 9/16 | 1.68392 | 2332.5881 | 1.68467 | 2340.6446 | 1.68542 | 2348.7149 |
| 19/32 | 1.68394 | 2332.8397 | 1.68469 | 2340.8965 | 1.68544 | 2348.9673 |
| 5/8 | 1.68397 | 2333.0913 | 1.68471 | 2341.1485 | 1.68546 | 2349.2197 |
| 21/32 | 1.68399 | 2333.3428 | 1.68474 | 2341.4006 | 1.68549 | 2349.4722 |
| 11/16 | 1.68401 | 2333.5944 | 1.68476 | 2341.6526 | 1.68551 | 2349.7246 |
| 23/32 | 1.68404 | 2333.8460 | 1.68478 | 2341.9046 | 1.68553 | 2349.9771 |
| 3/4 | 1.68406 | 2334.0977 | 1.68481 | 2342.1567 | 1.68556 | 2350.2296 |
| 25/32 | 1.68408 | 2334.3493 | 1.68483 | 2342.4088 | 1.68558 | 2350.4821 |
| 13/16 | 1.68411 | 2334.6009 | 1.68485 | 2342.6608 | 1.68560 | 2350.7346 |
| 27/32 | 1.68413 | 2334.8526 | 1.68488 | 2342.9129 | 1.68563 | 2350.9871 |
| 7/8 | 1.68415 | 2335.1043 | 1.68490 | 2343.1650 | 1.68565 | 2351.2397 |
| 29/32 | 1.68418 | 2335.3560 | 1.68492 | 2343.4172 | 1.68567 | 2351.4922 |
| 15/16 | 1.68420 | 2335.6077 | 1.68495 | 2343.6693 | 1.68570 | 2351.7448 |
| 31/32 | 1.68422 | 2335.8594 | 1.68497 | 2343.9214 | 1.68572 | 2351.9974 |
| 1 | 1.68425 | 2336.1111 | 1.68499 | 2344.1736 | 1.68574 | 2352.2500 |

| Fractions of an inch. | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.68574 | 2352.2500 | 1.68649 | 2360.3403 | 1.68723 | 2368.4444 |
| 1/32 | 1.68577 | 2352.5026 | 1.68651 | 2360.5933 | 1.68725 | 2368.6979 |
| 1/16 | 1.68579 | 2352.7552 | 1.68653 | 2360.8464 | 1.68728 | 2368.9514 |
| 3/32 | 1.68581 | 2353.0079 | 1.68656 | 2361.0995 | 1.68730 | 2369.2049 |
| 1/8 | 1.68584 | 2353.2605 | 1.68658 | 2361.3525 | 1.68732 | 2369.4584 |
| 5/32 | 1.68586 | 2353.5132 | 1.68660 | 2361.6056 | 1.68735 | 2369.7120 |
| 3/16 | 1.68588 | 2353.7659 | 1.68663 | 2361.8588 | 1.68737 | 2369.9655 |
| 7/32 | 1.68590 | 2354.0186 | 1.68665 | 2362.1119 | 1.68739 | 2370.2191 |
| 1/4 | 1.68593 | 2354.2713 | 1.68667 | 2362.3650 | 1.68742 | 2370.4727 |
| 9/32 | 1.68595 | 2354.5240 | 1.68670 | 2362.6182 | 1.68744 | 2370.7262 |
| 5/16 | 1.68597 | 2354.7767 | 1.68672 | 2362.8713 | 1.68746 | 2370.9798 |
| 11/32 | 1.68600 | 2355.0295 | 1.68674 | 2363.1245 | 1.68749 | 2371.2335 |
| 3/8 | 1.68602 | 2355.2822 | 1.68677 | 2363.3777 | 1.68751 | 2371.4871 |
| 13/32 | 1.68604 | 2355.5350 | 1.68679 | 2363.6309 | 1.68753 | 2371.7407 |
| 7/16 | 1.68607 | 2355.7878 | 1.68681 | 2363.8841 | 1.68756 | 2371.9944 |
| 15/32 | 1.68609 | 2356.0406 | 1.68684 | 2364.1374 | 1.68758 | 2372.2481 |
| 1/2 | 1.68611 | 2356.2934 | 1.68686 | 2364.3906 | 1.68760 | 2372.5017 |
| 17/32 | 1.68614 | 2356.5462 | 1.68688 | 2364.6439 | 1.68763 | 2372.7554 |
| 9/16 | 1.68616 | 2356.7991 | 1.68691 | 2364.8972 | 1.68765 | 2373.0091 |
| 19/32 | 1.68618 | 2357.0519 | 1.68693 | 2365.1505 | 1.68767 | 2373.2629 |
| 5/8 | 1.68621 | 2357.3048 | 1.68695 | 2365.4038 | 1.68770 | 2373.5166 |
| 21/32 | 1.68623 | 2357.5577 | 1.68698 | 2365.6571 | 1.68772 | 2373.7704 |
| 11/16 | 1.68625 | 2357.8106 | 1.68700 | 2365.9104 | 1.68774 | 2374.0241 |
| 23/32 | 1.68628 | 2358.0635 | 1.68702 | 2366.1637 | 1.68777 | 2374.2779 |
| 3/4 | 1.68630 | 2358.3164 | 1.68705 | 2366.4171 | 1.68779 | 2374.5317 |
| 25/32 | 1.68632 | 2358.5693 | 1.68707 | 2366.6705 | 1.68781 | 2374.7855 |
| 13/16 | 1.68635 | 2358.8223 | 1.68709 | 2366.9239 | 1.68784 | 2375.0393 |
| 27/32 | 1.68637 | 2359.0753 | 1.68712 | 2367.1773 | 1.68786 | 2375.2931 |
| 7/8 | 1.68639 | 2359.3282 | 1.68714 | 2367.4307 | 1.68788 | 2375.5470 |
| 29/32 | 1.68642 | 2359.5812 | 1.68716 | 2367.6841 | 1.68791 | 2375.8008 |
| 15/16 | 1.68644 | 2359.8342 | 1.68719 | 2367.9375 | 1.68793 | 2376.0547 |
| 31/32 | 1.68646 | 2360.0872 | 1.68721 | 2368.1910 | 1.68795 | 2376.3086 |
| 1 | 1.68649 | 2360.3403 | 1.68723 | 2368.4444 | 1.68797 | 2376.5625 |

| Fractions of an Inch. | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.68797 | 2376.5625 | 1.68872 | 2384.6944 | 1.68946 | 2392.8403 |
| 1/32 | 1.68800 | 2376.8164 | 1.68874 | 2384.9488 | 1.68948 | 2393.0951 |
| 1/16 | 1.68802 | 2377.0703 | 1.68876 | 2385.2032 | 1.68950 | 2393.3499 |
| 3/32 | 1.68804 | 2377.3243 | 1.68879 | 2385.4575 | 1.68953 | 2393.6047 |
| 1/8 | 1.68807 | 2377.5782 | 1.68881 | 2385.7119 | 1.68955 | 2393.8595 |
| 5/32 | 1.68809 | 2377.8322 | 1.68883 | 2385.9663 | 1.68957 | 2394.1143 |
| 3/16 | 1.68811 | 2378.0862 | 1.68886 | 2386.2207 | 1.68960 | 2394.3692 |
| 7/32 | 1.68814 | 2378.3402 | 1.68888 | 2386.4752 | 1.68962 | 2394.6240 |
| 1/4 | 1.68816 | 2378.5942 | 1.68890 | 2386.7296 | 1.68964 | 2394.8789 |
| 9/32 | 1.68818 | 2378.8482 | 1.68892 | 2386.9841 | 1.68966 | 2395.1338 |
| 5/16 | 1.68821 | 2379.1022 | 1.68895 | 2387.2385 | 1.68969 | 2395.3887 |
| 11/32 | 1.68823 | 2379.3563 | 1.68897 | 2387.4930 | 1.68971 | 2395.6436 |
| 3/8 | 1.68825 | 2379.6104 | 1.68899 | 2387.7475 | 1.68973 | 2395.8985 |
| 13/32 | 1.68828 | 2379.8644 | 1.68902 | 2388.0020 | 1.68976 | 2396.1535 |
| 7/16 | 1.68830 | 2380.1185 | 1.68904 | 2388.2565 | 1.68978 | 2396.4084 |
| 15/32 | 1.68832 | 2380.3726 | 1.68906 | 2388.5111 | 1.68980 | 2396.6634 |
| 1/2 | 1.68835 | 2380.6267 | 1.68909 | 2388.7656 | 1.68983 | 2396.9184 |
| 17/32 | 1.68837 | 2380.8809 | 1.68911 | 2389.0202 | 1.68985 | 2397.1734 |
| 9/16 | 1.68839 | 2381.1350 | 1.68913 | 2389.2748 | 1.68987 | 2397.4284 |
| 19/32 | 1.68842 | 2381.3892 | 1.68916 | 2389.5294 | 1.68990 | 2397.6834 |
| 5/8 | 1.68844 | 2381.6433 | 1.68918 | 2389.7840 | 1.68992 | 2397.9385 |
| 21/32 | 1.68846 | 2381.8975 | 1.68920 | 2390.0386 | 1.68994 | 2398.1935 |
| 11/16 | 1.68848 | 2382.1517 | 1.68923 | 2390.2932 | 1.68997 | 2398.4486 |
| 23/32 | 1.68851 | 2382.4059 | 1.68925 | 2390.5479 | 1.68999 | 2398.7037 |
| 3/4 | 1.68853 | 2382.6602 | 1.68927 | 2390.8025 | 1.69001 | 2398.9588 |
| 25/32 | 1.68855 | 2382.9144 | 1.68929 | 2391.0572 | 1.69003 | 2399.2139 |
| 13/16 | 1.68858 | 2383.1686 | 1.68932 | 2391.3119 | 1.69006 | 2399.4690 |
| 27/32 | 1.68860 | 2383.4229 | 1.68934 | 2391.5666 | 1.69008 | 2399.7241 |
| 7/8 | 1.68862 | 2383.6772 | 1.68936 | 2391.8213 | 1.69010 | 2399.9793 |
| 29/32 | 1.68865 | 2383.9315 | 1.68939 | 2392.0760 | 1.69013 | 2400.2344 |
| 15/16 | 1.68867 | 2384.1858 | 1.68941 | 2392.3308 | 1.69015 | 2400.4896 |
| 31/32 | 1.68869 | 2384.4401 | 1.68943 | 2392.5855 | 1.69017 | 2400.7448 |
| 1 | 1.68872 | 2384.6944 | 1.68946 | 2392.8403 | 1.69020 | 2401.0000 |

| Fractions of an Inch. | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.69020 | 2401.0000 | 1.69093 | 2409.1736 | 1.69167 | 2417.3611 |
| 1/32 | 1.69022 | 2401.2552 | 1.69096 | 2409.4293 | 1.69169 | 2417.6172 |
| 1/16 | 1.69024 | 2401.5104 | 1.69098 | 2409.6849 | 1.69172 | 2417.8733 |
| 3/32 | 1.69027 | 2401.7657 | 1.69100 | 2409.9406 | 1.69174 | 2418.1294 |
| 1/8 | 1.69029 | 2402.0209 | 1.69103 | 2410.1963 | 1.69176 | 2418.3855 |
| 5/32 | 1.69031 | 2402.2762 | 1.69105 | 2410.4520 | 1.69179 | 2418.6417 |
| 3/16 | 1.69033 | 2402.5315 | 1.69107 | 2410.7077 | 1.69181 | 2418.8978 |
| 7/32 | 1.69036 | 2402.7868 | 1.69110 | 2410.9634 | 1.69183 | 2419.1540 |
| 1/4 | 1.69038 | 2403.0421 | 1.69112 | 2411.2192 | 1.69185 | 2419.4102 |
| 9/32 | 1.69040 | 2403.2974 | 1.69114 | 2411.4749 | 1.69188 | 2419.6663 |
| 5/16 | 1.69043 | 2403.5528 | 1.69116 | 2411.7307 | 1.69190 | 2419.9226 |
| 11/32 | 1.69045 | 2403.8081 | 1.69119 | 2411.9865 | 1.69192 | 2420.1788 |
| 3/8 | 1.69047 | 2404.0635 | 1.69121 | 2412.2423 | 1.69195 | 2420.4350 |
| 13/32 | 1.69050 | 2404.3189 | 1.69123 | 2412.4981 | 1.69197 | 2420.6913 |
| 7/16 | 1.69052 | 2404.5742 | 1.69126 | 2412.7539 | 1.69199 | 2420.9475 |
| 15/32 | 1.69054 | 2404.8297 | 1.69128 | 2413.0098 | 1.69202 | 2421.2038 |
| 1/2 | 1.69057 | 2405.0851 | 1.69130 | 2413.2656 | 1.69204 | 2421.4601 |
| 17/32 | 1.69059 | 2405.3405 | 1.69133 | 2413.5215 | 1.69206 | 2421.7164 |
| 9/16 | 1.69061 | 2405.5959 | 1.69135 | 2413.7774 | 1.69208 | 2421.9727 |
| 19/32 | 1.69063 | 2405.8514 | 1.69137 | 2414.0333 | 1.69211 | 2422.2290 |
| 5/8 | 1.69066 | 2406.1069 | 1.69139 | 2414.2892 | 1.69213 | 2422.4854 |
| 21/32 | 1.69068 | 2406.3624 | 1.69142 | 2414.5451 | 1.69215 | 2422.7417 |
| 11/16 | 1.69070 | 2406.6179 | 1.69144 | 2414.8010 | 1.69218 | 2422.9981 |
| 23/32 | 1.69073 | 2406.8734 | 1.69146 | 2415.0570 | 1.69220 | 2423.2545 |
| 3/4 | 1.69075 | 2407.1289 | 1.69149 | 2415.3129 | 1.69222 | 2423.5109 |
| 25/32 | 1.69077 | 2407.3844 | 1.69151 | 2415.5689 | 1.69225 | 2423.7673 |
| 13/16 | 1.69080 | 2407.6400 | 1.69153 | 2415.8249 | 1.69227 | 2424.0237 |
| 27/32 | 1.69082 | 2407.8956 | 1.69156 | 2416.0809 | 1.69229 | 2424.2801 |
| 7/8 | 1.69084 | 2408.1511 | 1.69158 | 2416.3369 | 1.69231 | 2424.5366 |
| 29/32 | 1.69086 | 2408.4067 | 1.69160 | 2416.5929 | 1.69234 | 2424.7930 |
| 15/16 | 1.69089 | 2408.6624 | 1.69162 | 2416.8490 | 1.69236 | 2425.0495 |
| 31/32 | 1.69091 | 2408.9180 | 1.69165 | 2417.1050 | 1.69238 | 2425.3060 |
| 1 | 1.69093 | 2409.1736 | 1.69167 | 2417.3611 | 1.69241 | 2425.5625 |

| Fractions of an Inch. | 3" | | 4" | | 5" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.69241 | 2425.5625 | 1.69314 | 2433.7778 | 1.69387 | 2442.0069 |
| 1/32 | 1.69243 | 2425.8190 | 1.69316 | 2434.0347 | 1.69390 | 2442.2643 |
| 1/16 | 1.69245 | 2426.0755 | 1.69319 | 2434.2917 | 1.69392 | 2442.5217 |
| 3/32 | 1.69248 | 2426.3321 | 1.69321 | 2434.5487 | 1.69394 | 2442.7791 |
| 1/8 | 1.69250 | 2426.5887 | 1.69323 | 2434.8057 | 1.69396 | 2443.0366 |
| 5/32 | 1.69252 | 2426.8452 | 1.69326 | 2435.0627 | 1.69399 | 2443.2940 |
| 3/16 | 1.69254 | 2427.1018 | 1.69328 | 2435.3197 | 1.69401 | 2443.5515 |
| 7/32 | 1.69257 | 2427.3584 | 1.69330 | 2435.5767 | 1.69403 | 2443.8089 |
| 1/4 | 1.69259 | 2427.6150 | 1.69332 | 2435.8338 | 1.69406 | 2444.0664 |
| 9/32 | 1.69261 | 2427.8716 | 1.69335 | 2436.0908 | 1.69408 | 2444.3239 |
| 5/16 | 1.69264 | 2428.1283 | 1.69337 | 2436.3479 | 1.69410 | 2444.5814 |
| 11/32 | 1.69266 | 2428.3849 | 1.69339 | 2436.6050 | 1.69413 | 2444.8389 |
| 3/8 | 1.69268 | 2428.6416 | 1.69342 | 2436.8621 | 1.69415 | 2445.0965 |
| 13/32 | 1.69270 | 2428.8983 | 1.69344 | 2437.1192 | 1.69417 | 2445.3540 |
| 7/16 | 1.69273 | 2429.1550 | 1.69346 | 2437.3763 | 1.69419 | 2445.6116 |
| 15/32 | 1.69275 | 2429.4117 | 1.69348 | 2437.6335 | 1.69422 | 2445.8691 |
| 1/2 | 1.69277 | 2429.6684 | 1.69351 | 2437.8906 | 1.69424 | 2446.1267 |
| 17/32 | 1.69280 | 2429.9251 | 1.69353 | 2438.1478 | 1.69426 | 2446.3843 |
| 9/16 | 1.69282 | 2430.1819 | 1.69355 | 2438.4050 | 1.69429 | 2446.6420 |
| 19/32 | 1.69284 | 2430.4386 | 1.69358 | 2438.6622 | 1.69431 | 2446.8996 |
| 5/8 | 1.69287 | 2430.6954 | 1.69360 | 2438.9194 | 1.69433 | 2447.1572 |
| 21/32 | 1.69289 | 2430.9522 | 1.69362 | 2439.1766 | 1.69435 | 2447.4149 |
| 11/16 | 1.69291 | 2431.2090 | 1.69364 | 2439.4338 | 1.69438 | 2447.6726 |
| 23/32 | 1.69293 | 2431.4658 | 1.69367 | 2439.6911 | 1.69440 | 2447.9302 |
| 3/4 | 1.69296 | 2431.7227 | 1.69369 | 2439.9484 | 1.69442 | 2448.1879 |
| 25/32 | 1.69298 | 2431.9795 | 1.69371 | 2440.2056 | 1.69445 | 2448.4456 |
| 13/16 | 1.69300 | 2432.2364 | 1.69374 | 2440.4629 | 1.69447 | 2448.7034 |
| 27/32 | 1.69303 | 2432.4932 | 1.69376 | 2440.7202 | 1.69449 | 2448.9611 |
| 7/8 | 1.69305 | 2432.7501 | 1.69378 | 2440.9775 | 1.69451 | 2449.2189 |
| 29/32 | 1.69307 | 2433.0070 | 1.69380 | 2441.2349 | 1.69454 | 2449.4766 |
| 15/16 | 1.69309 | 2433.2639 | 1.69383 | 2441.4922 | 1.69456 | 2449.7344 |
| 31/32 | 1.69312 | 2433.5208 | 1.69385 | 2441.7496 | 1.69458 | 2449.9922 |
| 1 | 1.69314 | 2433.7778 | 1.69387 | 2442.0069 | 1.69461 | 2450.2500 |

| Fractions of an Inch. | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.69461 | 2450.2500 | 1.69534 | 2458.5069 | 1.69607 | 2466.7778 |
| 1/32 | 1.69463 | 2450.5078 | 1.69536 | 2458.7652 | 1.69609 | 2467.0365 |
| 1/16 | 1.69465 | 2450.7657 | 1.69538 | 2459.0235 | 1.69611 | 2467.2952 |
| 3/32 | 1.69467 | 2451.0235 | 1.69540 | 2459.2817 | 1.69613 | 2467.5539 |
| 1/8 | 1.69470 | 2451.2814 | 1.69543 | 2459.5400 | 1.69616 | 2467.8126 |
| 5/32 | 1.69472 | 2451.5392 | 1.69545 | 2459.7983 | 1.69618 | 2468.0714 |
| 3/16 | 1.69474 | 2451.7971 | 1.69547 | 2460.0567 | 1.69620 | 2468.3301 |
| 7/32 | 1.69477 | 2452.0550 | 1.69550 | 2460.3150 | 1.69622 | 2468.5889 |
| 1/4 | 1.69479 | 2452.3129 | 1.69552 | 2460.5734 | 1.69625 | 2468.8477 |
| 9/32 | 1.69481 | 2452.5709 | 1.69554 | 2460.8317 | 1.69627 | 2469.1065 |
| 5/16 | 1.69483 | 2452.8288 | 1.69556 | 2461.0901 | 1.69629 | 2469.3653 |
| 11/32 | 1.69486 | 2453.0868 | 1.69559 | 2461.3485 | 1.69632 | 2469.6241 |
| 3/8 | 1.69488 | 2453.3447 | 1.69561 | 2461.6069 | 1.69634 | 2469.8829 |
| 13/32 | 1.69490 | 2453.6027 | 1.69563 | 2461.8653 | 1.69636 | 2470.1418 |
| 7/16 | 1.69492 | 2453.8607 | 1.69565 | 2462.1237 | 1.69638 | 2470.4006 |
| 15/32 | 1.69495 | 2454.1187 | 1.69568 | 2462.3822 | 1.69641 | 2470.6595 |
| 1/2 | 1.69497 | 2454.3767 | 1.69570 | 2462.6406 | 1.69643 | 2470.9184 |
| 17/32 | 1.69499 | 2454.6348 | 1.69572 | 2462.8991 | 1.69645 | 2471.1773 |
| 9/16 | 1.69502 | 2454.8928 | 1.69575 | 2463.1576 | 1.69647 | 2471.4362 |
| 19/32 | 1.69504 | 2455.1509 | 1.69577 | 2463.4161 | 1.69650 | 2471.6952 |
| 5/8 | 1.69506 | 2455.4090 | 1.69579 | 2463.6746 | 1.69652 | 2471.9541 |
| 21/32 | 1.69508 | 2455.6671 | 1.69581 | 2463.9331 | 1.69654 | 2472.2131 |
| 11/16 | 1.69511 | 2455.9252 | 1.69584 | 2464.1917 | 1.69657 | 2472.4720 |
| 23/32 | 1.69513 | 2456.1833 | 1.69586 | 2464.4502 | 1.69659 | 2472.7310 |
| 3/4 | 1.69515 | 2456.4414 | 1.69588 | 2464.7088 | 1.69661 | 2472.9900 |
| 25/32 | 1.69518 | 2456.6996 | 1.69591 | 2464.9673 | 1.69663 | 2473.2490 |
| 13/16 | 1.69520 | 2456.9577 | 1.69593 | 2465.2259 | 1.69666 | 2473.5081 |
| 27/32 | 1.69522 | 2457.2159 | 1.69595 | 2465.4845 | 1.69668 | 2473.7671 |
| 7/8 | 1.69524 | 2457.4741 | 1.69597 | 2465.7432 | 1.69670 | 2474.0262 |
| 29/32 | 1.69527 | 2457.7323 | 1.69600 | 2466.0018 | 1.69672 | 2474.2852 |
| 15/16 | 1.69529 | 2457.9905 | 1.69602 | 2466.2604 | 1.69675 | 2474.5443 |
| 31/32 | 1.69531 | 2458.2487 | 1.69604 | 2466.5191 | 1.69677 | 2474.8034 |
| 1 | 1.69534 | 2458.5069 | 1.69607 | 2466.7778 | 1.69679 | 2475.0625 |

| Fractions of an Inch. | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.69679 | 2475.0625 | 1.69752 | 2483.3611 | 1.69825 | 2491.6736 |
| 1/32 | 1.69682 | 2475.3216 | 1.69754 | 2483.6207 | 1.69827 | 2491.9336 |
| 1/16 | 1.69684 | 2475.5808 | 1.69757 | 2483.8802 | 1.69829 | 2492.1936 |
| 3/32 | 1.69686 | 2475.8399 | 1.69759 | 2484.1398 | 1.69831 | 2492.4536 |
| 1/8 | 1.69688 | 2476.0991 | 1.69761 | 2484.3994 | 1.69834 | 2492.7137 |
| 5/32 | 1.69691 | 2476.3582 | 1.69763 | 2484.6590 | 1.69836 | 2492.9737 |
| 3/16 | 1.69693 | 2476.6174 | 1.69766 | 2484.9186 | 1.69838 | 2493.2338 |
| 7/32 | 1.69695 | 2476.8766 | 1.69768 | 2485.1783 | 1.69840 | 2493.4938 |
| 1/4 | 1.69697 | 2477.1359 | 1.69770 | 2485.4379 | 1.69843 | 2493.7539 |
| 9/32 | 1.69700 | 2477.3951 | 1.69772 | 2485.6976 | 1.69845 | 2494.0140 |
| 5/16 | 1.69702 | 2477.6543 | 1.69775 | 2485.9573 | 1.69847 | 2494.2741 |
| 11/32 | 1.69704 | 2477.9136 | 1.69777 | 2486.2170 | 1.69849 | 2494.5342 |
| 3/8 | 1.69707 | 2478.1729 | 1.69779 | 2486.4767 | 1.69852 | 2494.7944 |
| 13/32 | 1.69709 | 2478.4321 | 1.69781 | 2486.7364 | 1.69854 | 2495.0545 |
| 7/16 | 1.69711 | 2478.6914 | 1.69784 | 2486.9961 | 1.69856 | 2495.3147 |
| 15/32 | 1.69713 | 2478.9507 | 1.69786 | 2487.2559 | 1.69859 | 2495.5749 |
| 1/2 | 1.69716 | 2479.2101 | 1.69788 | 2487.5156 | 1.69861 | 2495.8351 |
| 17/32 | 1.69718 | 2479.4694 | 1.69791 | 2487.7754 | 1.69863 | 2496.0953 |
| 9/16 | 1.69720 | 2479.7288 | 1.69793 | 2488.0352 | 1.69865 | 2496.3555 |
| 19/32 | 1.69722 | 2479.9881 | 1.69795 | 2488.2950 | 1.69868 | 2496.6157 |
| 5/8 | 1.69725 | 2480.2475 | 1.69797 | 2488.5548 | 1.69870 | 2496.8760 |
| 21/32 | 1.69727 | 2480.5069 | 1.69800 | 2488.8146 | 1.69872 | 2497.1362 |
| 11/16 | 1.69729 | 2480.7663 | 1.69802 | 2489.0745 | 1.69874 | 2497.3965 |
| 23/32 | 1.69732 | 2481.0257 | 1.69804 | 2489.3343 | 1.69877 | 2497.6568 |
| 3/4 | 1.69734 | 2481.2852 | 1.69806 | 2489.5942 | 1.69879 | 2497.9171 |
| 25/32 | 1.69736 | 2481.5446 | 1.69809 | 2489.8541 | 1.69881 | 2498.1774 |
| 13/16 | 1.69738 | 2481.8041 | 1.69811 | 2490.1140 | 1.69883 | 2498.4377 |
| 27/32 | 1.69741 | 2482.0635 | 1.69813 | 2490.3739 | 1.69886 | 2498.6981 |
| 7/8 | 1.69743 | 2482.3230 | 1.69815 | 2490.6338 | 1.69888 | 2498.9584 |
| 29/32 | 1.69745 | 2482.5825 | 1.69818 | 2490.8937 | 1.69890 | 2499.2188 |
| 15/16 | 1.69747 | 2482.8420 | 1.69820 | 2491.1537 | 1.69892 | 2499.4792 |
| 31/32 | 1.69750 | 2483.1016 | 1.69822 | 2491.4136 | 1.69895 | 2499.7396 |
| 1 | 1.69752 | 2483.3611 | 1.69825 | 2491.6736 | 1.69897 | 2500.0000 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.69897 | 2500.0000 | 1.69969 | 2508.3403 | 1.70042 | 2516.6944 |
| 1/16 | 1.69902 | 2500.5209 | 1.69974 | 2508.8620 | 1.70046 | 2517.2170 |
| 1/8 | 1.69906 | 2501.0418 | 1.69978 | 2509.3838 | 1.70051 | 2517.7397 |
| 3/16 | 1.69911 | 2501.5627 | 1.69983 | 2509.9056 | 1.70055 | 2518.2624 |
| 1/4 | 1.69915 | 2502.0838 | 1.69987 | 2510.4275 | 1.70060 | 2518.7852 |
| 5/16 | 1.69920 | 2502.6048 | 1.69992 | 2510.9495 | 1.70064 | 2519.3080 |
| 3/8 | 1.69924 | 2503.1260 | 1.69996 | 2511.4715 | 1.70069 | 2519.8308 |
| 7/16 | 1.69929 | 2503.6472 | 1.70001 | 2511.9935 | 1.70073 | 2520.3538 |
| 1/2 | 1.69933 | 2504.1684 | 1.70005 | 2512.5156 | 1.70078 | 2520.8767 |
| 9/16 | 1.69938 | 2504.6897 | 1.70010 | 2513.0378 | 1.70082 | 2521.3998 |
| 5/8 | 1.69942 | 2505.2110 | 1.70014 | 2513.5600 | 1.70087 | 2521.9229 |
| 11/16 | 1.69947 | 2505.7324 | 1.70019 | 2514.0823 | 1.70091 | 2522.4460 |
| 3/4 | 1.69951 | 2506.2539 | 1.70023 | 2514.6046 | 1.70096 | 2522.9692 |
| 13/16 | 1.69956 | 2506.7754 | 1.70028 | 2515.1270 | 1.70100 | 2523.4924 |
| 7/8 | 1.69960 | 2507.2970 | 1.70033 | 2515.6494 | 1.70105 | 2524.0157 |
| 15/16 | 1.69965 | 2507.8186 | 1.70037 | 2516.1719 | 1.70109 | 2524.5391 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.70114 | 2525.0625 | 1.70186 | 2533.4444 | 1.70257 | 2541.8403 |
| 1/16 | 1.70118 | 2525.5860 | 1.70190 | 2533.9688 | 1.70262 | 2542.3655 |
| 1/8 | 1.70123 | 2526.1095 | 1.70195 | 2534.4932 | 1.70266 | 2542.8907 |
| 3/16 | 1.70127 | 2526.6331 | 1.70199 | 2535.0176 | 1.70271 | 2543.4160 |
| 1/4 | 1.70132 | 2527.1567 | 1.70204 | 2535.5421 | 1.70275 | 2543.9414 |
| 5/16 | 1.70136 | 2527.6804 | 1.70208 | 2536.0667 | 1.70280 | 2544.4668 |
| 3/8 | 1.70141 | 2528.2041 | 1.70213 | 2536.5913 | 1.70284 | 2544.9923 |
| 7/16 | 1.70145 | 2528.7279 | 1.70217 | 2537.1159 | 1.70289 | 2545.5178 |
| 1/2 | 1.70150 | 2529.2517 | 1.70222 | 2537.6406 | 1.70293 | 2546.0434 |
| 9/16 | 1.70154 | 2529.7756 | 1.70226 | 2538.1654 | 1.70298 | 2546.5690 |
| 5/8 | 1.70159 | 2530.2996 | 1.70230 | 2538.6902 | 1.70302 | 2547.0947 |
| 11/16 | 1.70163 | 2530.8236 | 1.70235 | 2539.2151 | 1.70307 | 2547.6205 |
| 3/4 | 1.70168 | 2531.3477 | 1.70239 | 2539.7400 | 1.70311 | 2548.1463 |
| 13/16 | 1.70172 | 2531.8718 | 1.70244 | 2540.2650 | 1.70316 | 2548.6721 |
| 7/8 | 1.70177 | 2532.3959 | 1.70248 | 2540.7900 | 1.70320 | 2549.1980 |
| 15/16 | 1.70181 | 2532.9202 | 1.70253 | 2541.3151 | 1.70325 | 2549.7240 |

| Fraction of an inch | 6″ | | 7″ | | 8′ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.70329 | 2550.2500 | 1.70401 | 2558.6736 | 1.70472 | 2567.1111 |
| 1/16 | 1.70334 | 2550.7761 | 1.70405 | 2559.2005 | 1.70477 | 2567.6389 |
| 1/8 | 1.70338 | 2551.3022 | 1.70410 | 2559.7275 | 1.70481 | 2568.1668 |
| 3/16 | 1.70343 | 2551.8284 | 1.70414 | 2560.2546 | 1.70486 | 2568.6947 |
| 1/4 | 1.70347 | 2552.3546 | 1.70419 | 2560.7817 | 1.70490 | 2569.2227 |
| 5/16 | 1.70352 | 2552.8809 | 1.70423 | 2561.3088 | 1.70495 | 2569.7507 |
| 3/8 | 1.70356 | 2553.4072 | 1.70428 | 2561.8360 | 1.70499 | 2570.2788 |
| 7/16 | 1.70360 | 2553.9336 | 1.70432 | 2562.3633 | 1.70503 | 2570.8069 |
| 1/2 | 1.70365 | 2554.4601 | 1.70437 | 2562.8906 | 1.70508 | 2571.3351 |
| 9/16 | 1.70369 | 2554.9866 | 1.70441 | 2563.4180 | 1.70512 | 2571.8633 |
| 5/8 | 1.70374 | 2555.5131 | 1.70445 | 2563.9454 | 1.70517 | 2572.3916 |
| 11/16 | 1.70378 | 2556.0397 | 1.70450 | 2564.4729 | 1.70521 | 2572.9199 |
| 3/4 | 1.70383 | 2556.5664 | 1.70454 | 2565.0004 | 1.70526 | 2573.4484 |
| 13/16 | 1.70387 | 2557.0931 | 1.70459 | 2565.5280 | 1.70530 | 2573.9768 |
| 7/8 | 1.70392 | 2557.6199 | 1.70463 | 2566.0557 | 1.70535 | 2574.5053 |
| 15/16 | 1.70396 | 2558.1467 | 1.70468 | 2566.5834 | 1.70539 | 2575.0339 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.70544 | 2575.5625 | 1.70615 | 2584.0278 | 1.70686 | 2592.5069 |
| 1/16 | 1.70548 | 2576.0912 | 1.70619 | 2584.5573 | 1.70690 | 2593.0374 |
| 1/8 | 1.70553 | 2576.6199 | 1.70624 | 2585.0869 | 1.70695 | 2593.5678 |
| 3/16 | 1.70557 | 2577.1487 | 1.70628 | 2585.6166 | 1.70699 | 2594.0983 |
| 1/4 | 1.70561 | 2577.6775 | 1.70633 | 2586.1463 | 1.70704 | 2594.6289 |
| 5/16 | 1.70566 | 2578.2064 | 1.70637 | 2586.6760 | 1.70708 | 2595.1595 |
| 3/8 | 1.70570 | 2578.7354 | 1.70642 | 2587.2058 | 1.70713 | 2595.6902 |
| 7/16 | 1.70575 | 2579.2644 | 1.70646 | 2587.7357 | 1.70717 | 2596.2209 |
| 1/2 | 1.70579 | 2579.7934 | 1.70650 | 2588.2656 | 1.70722 | 2596.7517 |
| 9/16 | 1.70584 | 2580.3225 | 1.70655 | 2588.7956 | 1.70726 | 2597.2826 |
| 5/8 | 1.70588 | 2580.8517 | 1.70659 | 2589.3256 | 1.70730 | 2597.8135 |
| 11/16 | 1.70593 | 2581.3809 | 1.70664 | 2589.8557 | 1.70735 | 2598.3444 |
| 3/4 | 1.70597 | 2581.9102 | 1.70668 | 2590.3859 | 1.70739 | 2598.8754 |
| 13/16 | 1.70602 | 2582.4395 | 1.70673 | 2590.9160 | 1.70744 | 2599.4065 |
| 7/8 | 1.70606 | 2582.9689 | 1.70677 | 2591.4463 | 1.70748 | 2599.9376 |
| 15/16 | 1.70610 | 2583.4983 | 1.70682 | 2591.9766 | 1.70753 | 2600.4688 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.70757 | 2601.0000 | 1.70828 | 2609.5069 | 1.70899 | 2618.0278 |
| 1/16 | 1.70761 | 2601.5313 | 1.70832 | 2610.0391 | 1.70903 | 2618.5608 |
| 1/8 | 1.70766 | 2602.0626 | 1.70837 | 2610.5713 | 1.70908 | 2619.0939 |
| 3/16 | 1.70770 | 2602.5940 | 1.70841 | 2611.1035 | 1.70912 | 2619.6270 |
| 1/4 | 1.70775 | 2603.1254 | 1.70846 | 2611.6359 | 1.70916 | 2620.1602 |
| 5/16 | 1.70779 | 2603.6569 | 1.70850 | 2612.1682 | 1.70921 | 2620.6934 |
| 3/8 | 1.70784 | 2604.1885 | 1.70854 | 2612.7006 | 1.70925 | 2621.2267 |
| 7/16 | 1.70788 | 2604.7201 | 1.70859 | 2613.2331 | 1.70930 | 2621.7600 |
| 1/2 | 1.70792 | 2605.2517 | 1.70863 | 2613.7656 | 1.70934 | 2622.2934 |
| 9/16 | 1.70797 | 2605.7834 | 1.70868 | 2614.2982 | 1.70938 | 2622.8269 |
| 5/8 | 1.70801 | 2606.3152 | 1.70872 | 2614.8308 | 1.70943 | 2623.3604 |
| 11/16 | 1.70806 | 2606.8470 | 1.70877 | 2615.3635 | 1.70947 | 2623.8939 |
| 3/4 | 1.70810 | 2607.3789 | 1.70881 | 2615.8963 | 1.70952 | 2624.4275 |
| 13/16 | 1.70815 | 2607.9108 | 1.70885 | 2616.4291 | 1.70956 | 2624.9612 |
| 7/8 | 1.70819 | 2608.4428 | 1.70890 | 2616.9619 | 1.70961 | 2625.4949 |
| 15/16 | 1.70823 | 2608.9749 | 1.70894 | 2617.4948 | 1.70965 | 2626.0287 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.70969 | 2626.5625 | 1.71040 | 2635.1111 | 1.71110 | 2643.6736 |
| 1/16 | 1.70974 | 2627.0964 | 1.71044 | 2635.6459 | 1.71115 | 2644.2092 |
| 1/8 | 1.70978 | 2627.6303 | 1.71049 | 2636.1807 | 1.71119 | 2644.7449 |
| 3/16 | 1.70983 | 2628.1643 | 1.71053 | 2636.7155 | 1.71124 | 2645.2806 |
| 1/4 | 1.70987 | 2628.6984 | 1.71058 | 2637.2504 | 1.71128 | 2645.8164 |
| 5/16 | 1.70991 | 2629.2324 | 1.71062 | 2637.7854 | 1.71132 | 2646.3522 |
| 3/8 | 1.70996 | 2629.7666 | 1.71066 | 2638.3204 | 1.71137 | 2646.8881 |
| 7/16 | 1.71000 | 2630.3008 | 1.71071 | 2638.8555 | 1.71141 | 2647.4241 |
| 1/2 | 1.71005 | 2630.8351 | 1.71075 | 2639.3906 | 1.71146 | 2647.9601 |
| 9/16 | 1.71009 | 2631.3694 | 1.71080 | 2639.9258 | 1.71150 | 2648.4961 |
| 5/8 | 1.71014 | 2631.9038 | 1.71084 | 2640.4610 | 1.71154 | 2649.0322 |
| 11/16 | 1.71018 | 2632.4382 | 1.71088 | 2640.9963 | 1.71159 | 2649.5684 |
| 3/4 | 1.71022 | 2632.9727 | 1.71093 | 2641.5317 | 1.71163 | 2650.1046 |
| 13/16 | 1.71027 | 2633.5072 | 1.71097 | 2642.0671 | 1.71168 | 2650.6409 |
| 7/8 | 1.71031 | 2634.0418 | 1.71102 | 2642.6025 | 1.71172 | 2651.1772 |
| 15/16 | 1.71036 | 2634.5764 | 1.71106 | 2643.1380 | 1.71176 | 2651.7136 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.71181 | 2652.2500 | 1.71251 | 2660.8403 | 1.71321 | 2669.4444 |
| 1/16 | 1.71185 | 2652.7865 | 1.71255 | 2661.3776 | 1.71325 | 2669.9827 |
| 1/8 | 1.71190 | 2653.3230 | 1.71260 | 2661.9150 | 1.71330 | 2670.5209 |
| 3/16 | 1.71194 | 2653.8596 | 1.71264 | 2662.4525 | 1.71334 | 2671.0593 |
| 1/4 | 1.71198 | 2654.3963 | 1.71268 | 2662.9900 | 1.71339 | 2671.5977 |
| 5/16 | 1.71203 | 2654.9330 | 1.71273 | 2663.5276 | 1.71343 | 2672.1361 |
| 3/8 | 1.71207 | 2655.4697 | 1.71277 | 2664.0652 | 1.71347 | 2672.6746 |
| 7/16 | 1.71211 | 2656.0065 | 1.71282 | 2664.6029 | 1.71352 | 2673.2131 |
| 1/2 | 1.71216 | 2656.5434 | 1.71286 | 2665.1406 | 1.71356 | 2673.7517 |
| 9/16 | 1.71220 | 2657.0803 | 1.71290 | 2665.6784 | 1.71360 | 2674.2904 |
| 5/8 | 1.71225 | 2657.6173 | 1.71295 | 2666.2163 | 1.71365 | 2674.8291 |
| 11/16 | 1.71229 | 2658.1543 | 1.71299 | 2666.7542 | 1.71369 | 2675.3679 |
| 3/4 | 1.71233 | 2658.6914 | 1.71304 | 2667.2921 | 1.71374 | 2675.9067 |
| 13/16 | 1.71238 | 2659.2285 | 1.71308 | 2667.8301 | 1.71378 | 2676.4456 |
| 7/8 | 1.71242 | 2659.7657 | 1.71312 | 2668.3682 | 1.71382 | 2676.9845 |
| 15/16 | 1.71247 | 2660.3030 | 1.71317 | 2668.9063 | 1.71387 | 2677.5235 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.71391 | 2678.0625 | 1.71461 | 2686.6944 | 1.71531 | 2695.3403 |
| 1/16 | 1.71395 | 2678.6016 | 1.71465 | 2687.2344 | 1.71535 | 2695.8811 |
| 1/8 | 1.71400 | 2679.1407 | 1.71470 | 2687.7744 | 1.71539 | 2696.4220 |
| 3/16 | 1.71404 | 2679.6799 | 1.71474 | 2688.3145 | 1.71544 | 2696.9629 |
| 1/4 | 1.71409 | 2680.2192 | 1.71478 | 2688.8546 | 1.71548 | 2697.5039 |
| 5/16 | 1.71413 | 2680.7585 | 1.71483 | 2689.3948 | 1.71552 | 2698.0449 |
| 3/8 | 1.71417 | 2681.2979 | 1.71487 | 2689.9350 | 1.71557 | 2698.5860 |
| 7/16 | 1.71422 | 2681.8373 | 1.71491 | 2690.4753 | 1.71561 | 2699.1272 |
| 1/2 | 1.71426 | 2682.3767 | 1.71496 | 2691.0156 | 1.71566 | 2699.6684 |
| 9/16 | 1.71430 | 2682.9163 | 1.71500 | 2691.5560 | 1.71570 | 2700.2097 |
| 5/8 | 1.71435 | 2683.4558 | 1.71505 | 2692.0965 | 1.71574 | 2700.7510 |
| 11/16 | 1.71439 | 2683.9955 | 1.71509 | 2692.6370 | 1.71579 | 2701.2923 |
| 3/4 | 1.71443 | 2684.5352 | 1.71513 | 2693.1775 | 1.71583 | 2701.8338 |
| 13/16 | 1.71448 | 2685.0749 | 1.71518 | 2693.7181 | 1.71587 | 2702.3752 |
| 7/8 | 1.71452 | 2685.6147 | 1.71522 | 2694.2588 | 1.71592 | 2702.9168 |
| 15/16 | 1.71457 | 2686.1545 | 1.71526 | 2694.7995 | 1.71596 | 2703.4584 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.71600 | 2704.0000 | 1.71670 | 2712.6736 | 1.71739 | 2721.3611 |
| 1/16 | 1.71605 | 2704.5417 | 1.71674 | 2713.2162 | 1.71744 | 2721.9045 |
| 1/8 | 1.71609 | 2705.0834 | 1.71679 | 2713.7588 | 1.71748 | 2722.4480 |
| 3/16 | 1.71613 | 2705.6252 | 1.71683 | 2714.3015 | 1.71752 | 2722.9916 |
| 1/4 | 1.71618 | 2706.1671 | 1.71687 | 2714.8442 | 1.71757 | 2723.5352 |
| 5/16 | 1.71622 | 2706.7090 | 1.71692 | 2715.3870 | 1.71761 | 2724.0788 |
| 3/8 | 1.71626 | 2707.2510 | 1.71696 | 2715.9298 | 1.71765 | 2724.6225 |
| 7/16 | 1.71631 | 2707.7930 | 1.71700 | 2716.4727 | 1.71770 | 2725.1663 |
| 1/2 | 1.71635 | 2708.3351 | 1.71705 | 2717.0156 | 1.71774 | 2725.7101 |
| 9/16 | 1.71639 | 2708.8772 | 1.71709 | 2717.5586 | 1.71778 | 2726.2539 |
| 5/8 | 1.71644 | 2709.4194 | 1.71713 | 2718.1017 | 1.71783 | 2726.7979 |
| 11/16 | 1.71648 | 2709.9616 | 1.71718 | 2718.6448 | 1.71787 | 2727.3418 |
| 3/4 | 1.71653 | 2710.5039 | 1.71722 | 2719.1879 | 1.71791 | 2727.8859 |
| 13/16 | 1.71657 | 2711.0463 | 1.71726 | 2719.7311 | 1.71796 | 2728.4299 |
| 7/8 | 1.71661 | 2711.5887 | 1.71731 | 2720.2744 | 1.71800 | 2728.9741 |
| 15/16 | 1.71666 | 2712.1311 | 1.71735 | 2720.8177 | 1.71804 | 2729.5183 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.71809 | 2730.0625 | 1.71878 | 2738.7778 | 1.71947 | 2747.5069 |
| 1/16 | 1.71813 | 2730.6068 | 1.71882 | 2739.3229 | 1.71951 | 2748.0530 |
| 1/8 | 1.71817 | 2731.1512 | 1.71886 | 2739.8682 | 1.71956 | 2748.5991 |
| 3/16 | 1.71822 | 2731.6956 | 1.71891 | 2740.4134 | 1.71960 | 2749.1452 |
| 1/4 | 1.71826 | 2732.2400 | 1.71895 | 2740.9588 | 1.71964 | 2749.6914 |
| 5/16 | 1.71830 | 2732.7845 | 1.71899 | 2741.5042 | 1.71969 | 2750.2377 |
| 3/8 | 1.71835 | 2733.3291 | 1.71904 | 2742.0496 | 1.71973 | 2750.7840 |
| 7/16 | 1.71839 | 2733.8737 | 1.71908 | 2742.5951 | 1.71977 | 2751.3303 |
| 1/2 | 1.71843 | 2734.4184 | 1.71912 | 2743.1406 | 1.71981 | 2751.8767 |
| 9/16 | 1.71848 | 2734.9631 | 1.71917 | 2743.6862 | 1.71986 | 2752.4232 |
| 5/8 | 1.71852 | 2735.5079 | 1.71921 | 2744.2319 | 1.71990 | 2752.9697 |
| 11/16 | 1.71856 | 2736.0528 | 1.71925 | 2744.7776 | 1.71994 | 2753.5163 |
| 3/4 | 1.71861 | 2736.5977 | 1.71930 | 2745.3234 | 1.71999 | 2754.0629 |
| 13/16 | 1.71865 | 2737.1426 | 1.71934 | 2745.8692 | 1.72003 | 2754.6096 |
| 7/8 | 1.71869 | 2737.6876 | 1.71938 | 2746.4150 | 1.72007 | 2755.1564 |
| 15/16 | 1.71874 | 2738.2327 | 1.71943 | 2746.9610 | 1.72012 | 2755.7032 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.72016 | 2756.2500 | 1.72085 | 2765.0069 | 1.72154 | 2773.7778 |
| 1/16 | 1.72020 | 2756.7969 | 1.72089 | 2765.5547 | 1.72158 | 2774.3264 |
| 1/8 | 1.72025 | 2757.3439 | 1.72093 | 2766.1025 | 1.72162 | 2774.8751 |
| 3/16 | 1.72029 | 2757.8909 | 1.72098 | 2766.6504 | 1.72166 | 2775.4239 |
| 1/4 | 1.72033 | 2758.4379 | 1.72102 | 2767.1984 | 1.72171 | 2775.9727 |
| 5/16 | 1.72037 | 2758.9851 | 1.72106 | 2767.7463 | 1.72175 | 2776.5215 |
| 3/8 | 1.72042 | 2759.5322 | 1.72111 | 2768.2944 | 1.72179 | 2777.0704 |
| 7/16 | 1.72046 | 2760.0795 | 1.72115 | 2768.8425 | 1.72184 | 2777.6194 |
| 1/2 | 1.72050 | 2760.6267 | 1.72119 | 2769.3906 | 1.72188 | 2778.1684 |
| 9/16 | 1.72055 | 2761.1741 | 1.72124 | 2769.9388 | 1.72192 | 2778.7175 |
| 5/8 | 1.72059 | 2761.7215 | 1.72128 | 2770.4871 | 1.72197 | 2779.2666 |
| 11/16 | 1.72063 | 2762.2689 | 1.72132 | 2771.0354 | 1.72201 | 2779.8158 |
| 3/4 | 1.72068 | 2762.8164 | 1.72136 | 2771.5838 | 1.72205 | 2780.3650 |
| 13/16 | 1.72072 | 2763.3640 | 1.72141 | 2772.1322 | 1.72209 | 2780.9143 |
| 7/8 | 1.72076 | 2763.9116 | 1.72145 | 2772.6807 | 1.72214 | 2781.4637 |
| 15/16 | 1.72081 | 2764.4592 | 1.72149 | 2773.2292 | 1.72218 | 2782.0130 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.72222 | 2782.5625 | 1.72291 | 2791.3611 | 1.72359 | 2800.1736 |
| 1/16 | 1.72227 | 2783.1120 | 1.72295 | 2791.9115 | 1.72364 | 2800.7249 |
| 1/8 | 1.72231 | 2783.6616 | 1.72299 | 2792.4619 | 1.72368 | 2801.2762 |
| 3/16 | 1.72235 | 2784.2112 | 1.72304 | 2793.0124 | 1.72372 | 2801.8275 |
| 1/4 | 1.72239 | 2784.7609 | 1.72308 | 2793.5629 | 1.72376 | 2802.3789 |
| 5/16 | 1.72244 | 2785.3106 | 1.72312 | 2794.1135 | 1.72381 | 2802.9304 |
| 3/8 | 1.72248 | 2785.8604 | 1.72316 | 2794.6642 | 1.72385 | 2803.4819 |
| 7/16 | 1.72252 | 2786.4102 | 1.72321 | 2795.2149 | 1.72389 | 2804.0334 |
| 1/2 | 1.72257 | 2786.9601 | 1.72325 | 2795.7656 | 1.72393 | 2804.5851 |
| 9/16 | 1.72261 | 2787.5100 | 1.72329 | 2796.3164 | 1.72398 | 2805.1367 |
| 5/8 | 1.72265 | 2788.0600 | 1.72334 | 2796.8673 | 1.72402 | 2805.6885 |
| 11/16 | 1.72269 | 2788.6101 | 1.72338 | 2797.4182 | 1.72406 | 2806.2403 |
| 3/4 | 1.72274 | 2789.1602 | 1.72342 | 2797.9692 | 1.72411 | 2806.7921 |
| 13/16 | 1.72278 | 2789.7103 | 1.72346 | 2798.5202 | 1.72415 | 2807.3440 |
| 7/8 | 1.72282 | 2790.2605 | 1.72351 | 2799.0713 | 1.72419 | 2807.8959 |
| 15/16 | 1.72287 | 2790.8108 | 1.72355 | 2799.6224 | 1.72423 | 2808.4479 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.72428 | 2809.0000 | 1.72496 | 2817.8403 | 1.72564 | 2826.6944 |
| 1/16 | 1.72432 | 2809.5521 | 1.72500 | 2818.3933 | 1.72568 | 2827.2483 |
| 1/8 | 1.72436 | 2810.1043 | 1.72504 | 2818.9463 | 1.72572 | 2827.8022 |
| 3/16 | 1.72440 | 2810.6565 | 1.72509 | 2819.4994 | 1.72577 | 2828.3561 |
| 1/4 | 1.72445 | 2811.2088 | 1.72513 | 2820.0525 | 1.72581 | 2828.9102 |
| 5/16 | 1.72449 | 2811.7611 | 1.72517 | 2820.6057 | 1.72585 | 2829.4642 |
| 3/8 | 1.72453 | 2812.3135 | 1.72521 | 2821.1590 | 1.72589 | 2830.0183 |
| 7/16 | 1.72457 | 2812.8659 | 1.72526 | 2821.7123 | 1.72594 | 2830.5725 |
| 1/2 | 1.72462 | 2813.4184 | 1.72530 | 2822.2656 | 1.72598 | 2831.1267 |
| 9/16 | 1.72466 | 2813.9709 | 1.72534 | 2822.8190 | 1.72602 | 2831.6810 |
| 5/8 | 1.72470 | 2814.5235 | 1.72538 | 2823.3725 | 1.72606 | 2832.2354 |
| 11/16 | 1.72475 | 2815.0762 | 1.72543 | 2823.9260 | 1.72611 | 2832.7897 |
| 3/4 | 1.72479 | 2815.6289 | 1.72547 | 2824.4796 | 1.72615 | 2833.3442 |
| 13/16 | 1.72483 | 2816.1817 | 1.72551 | 2825.0332 | 1.72619 | 2833.8987 |
| 7/8 | 1.72487 | 2816.7345 | 1.72555 | 2825.5869 | 1.72623 | 2834.4532 |
| 15/16 | 1.72492 | 2817.2874 | 1.72560 | 2826.1407 | 1.72628 | 2835.0078 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.72632 | 2835.5625 | 1.72700 | 2844.4444 | 1.72768 | 2853.3403 |
| 1/16 | 1.72636 | 2836.1172 | 1.72704 | 2845.0000 | 1.72772 | 2853.8967 |
| 1/8 | 1.72640 | 2836.6720 | 1.72708 | 2845.5557 | 1.72776 | 2854.4532 |
| 3/16 | 1.72645 | 2837.2268 | 1.72713 | 2846.1114 | 1.72780 | 2855.0098 |
| 1/4 | 1.72649 | 2837.7817 | 1.72717 | 2846.6671 | 1.72785 | 2855.5664 |
| 5/16 | 1.72653 | 2838.3366 | 1.72721 | 2847.2229 | 1.72789 | 2856.1231 |
| 3/8 | 1.72657 | 2838.8916 | 1.72725 | 2847.7788 | 1.72793 | 2856.6798 |
| 7/16 | 1.72662 | 2839.4466 | 1.72730 | 2848.3347 | 1.72797 | 2857.2366 |
| 1/2 | 1.72666 | 2840.0017 | 1.72734 | 2848.8906 | 1.72802 | 2857.7934 |
| 9/16 | 1.72670 | 2840.5569 | 1.72738 | 2849.4466 | 1.72806 | 2858.3503 |
| 5/8 | 1.72674 | 2841.1121 | 1.72742 | 2850.0027 | 1.72810 | 2858.9072 |
| 11/16 | 1.72679 | 2841.6673 | 1.72747 | 2850.5588 | 1.72814 | 2859.4642 |
| 3/4 | 1.72683 | 2842.2227 | 1.72751 | 2851.1150 | 1.72818 | 2860.0213 |
| 13/16 | 1.72687 | 2842.7780 | 1.72755 | 2851.6713 | 1.72823 | 2860.5784 |
| 7/8 | 1.72691 | 2843.3334 | 1.72759 | 2852.2275 | 1.72827 | 2861.1355 |
| 15/16 | 1.72696 | 2843.8889 | 1.72763 | 2852.7839 | 1.72831 | 2861.6927 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.72835 | 2862.2500 | 1.72903 | 2871.1736 | 1.72970 | 2880.1111 |
| 1/16 | 1.72840 | 2862.8073 | 1.72907 | 2871.7318 | 1.72975 | 2880.6702 |
| 1/8 | 1.72844 | 2863.3647 | 1.72911 | 2872.2900 | 1.72979 | 2881.2293 |
| 3/16 | 1.72848 | 2863.9221 | 1.72916 | 2872.8483 | 1.72983 | 2881.7884 |
| 1/4 | 1.72852 | 2864.4796 | 1.72920 | 2873.4067 | 1.72987 | 2882.3477 |
| 5/16 | 1.72857 | 2865.0371 | 1.72924 | 2873.9651 | 1.72992 | 2882.9069 |
| 3/8 | 1.72861 | 2865.5947 | 1.72928 | 2874.5235 | 1.72996 | 2883.4663 |
| 7/16 | 1.72865 | 2866.1524 | 1.72933 | 2875.0821 | 1.73000 | 2884.0256 |
| 1/2 | 1.72869 | 2866.7101 | 1.72937 | 2875.6406 | 1.73004 | 2884.5851 |
| 9/16 | 1.72873 | 2867.2678 | 1.72941 | 2876.1992 | 1.73008 | 2885.1446 |
| 5/8 | 1.72878 | 2867.8256 | 1.72945 | 2876.7579 | 1.73013 | 2885.7041 |
| 11/16 | 1.72882 | 2868.3835 | 1.72949 | 2877.3167 | 1.73017 | 2886.2637 |
| 3/4 | 1.72886 | 2868.9414 | 1.72954 | 2877.8754 | 1.73021 | 2886.8234 |
| 13/16 | 1.72890 | 2869.4994 | 1.72958 | 2878.4343 | 1.73025 | 2887.3831 |
| 7/8 | 1.72895 | 2870.0574 | 1.72962 | 2878.9932 | 1.73029 | 2887.9428 |
| 15/16 | 1.72899 | 2870.6155 | 1.72966 | 2879.5521 | 1.73034 | 2888.5026 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.73038 | 2889.0625 | 1.73105 | 2898.0278 | 1.73172 | 2907.0069 |
| 1/16 | 1.73042 | 2889.6224 | 1.73109 | 2898.5886 | 1.73177 | 2907.5686 |
| 1/8 | 1.73046 | 2890.1824 | 1.73114 | 2899.1494 | 1.73181 | 2908.1303 |
| 3/16 | 1.73050 | 2890.7424 | 1.73118 | 2899.7103 | 1.73185 | 2908.6921 |
| 1/4 | 1.73055 | 2891.3025 | 1.73122 | 2900.2713 | 1.73189 | 2909.2539 |
| 5/16 | 1.73059 | 2891.8627 | 1.73126 | 2900.8323 | 1.73193 | 2909.8158 |
| 3/8 | 1.73063 | 2892.4229 | 1.73130 | 2901.3933 | 1.73197 | 2910.3777 |
| 7/16 | 1.73067 | 2892.9831 | 1.73135 | 2901.9545 | 1.73202 | 2910.9397 |
| 1/2 | 1.73072 | 2893.5434 | 1.73139 | 2902.5156 | 1.73206 | 2911.5017 |
| 9/16 | 1.73076 | 2894.1038 | 1.73143 | 2903.0768 | 1.73210 | 2912.0638 |
| 5/8 | 1.73080 | 2894.6642 | 1.73147 | 2903.6381 | 1.73214 | 2912.6260 |
| 11/16 | 1.73084 | 2895.2246 | 1.73151 | 2904.1995 | 1.73218 | 2913.1882 |
| 3/4 | 1.73088 | 2895.7852 | 1.73156 | 2904.7609 | 1.73223 | 2913.7504 |
| 13/16 | 1.73093 | 2896.3457 | 1.73160 | 2905.3223 | 1.73227 | 2914.3127 |
| 7/8 | 1.73097 | 2896.9064 | 1.73164 | 2905.8838 | 1.73231 | 2914.8751 |
| 15/16 | 1.73101 | 2897.4670 | 1.73168 | 2906.4453 | 1.73235 | 2915.4375 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.73239 | 2916.0000 | 1.73306 | 2925.0069 | 1.73373 | 2934.0278 |
| 1/16 | 1.73244 | 2916.5625 | 1.73311 | 2925.5703 | 1.73377 | 2934.5920 |
| 1/8 | 1.73248 | 2917.1251 | 1.73315 | 2926.1338 | 1.73382 | 2935.1564 |
| 3/16 | 1.73252 | 2917.6877 | 1.73319 | 2926.6973 | 1.73386 | 2935.7207 |
| 1/4 | 1.73256 | 2918.2504 | 1.73323 | 2927.2609 | 1.73390 | 2936.2852 |
| 5/16 | 1.73260 | 2918.8132 | 1.73327 | 2927.8245 | 1.73394 | 2936.8496 |
| 3/8 | 1.73265 | 2919.3760 | 1.73331 | 2928.3881 | 1.73398 | 2937.4142 |
| 7/16 | 1.73269 | 2919.9388 | 1.73336 | 2928.9519 | 1.73402 | 2937.9788 |
| 1/2 | 1.73273 | 2920.5017 | 1.73340 | 2929.5156 | 1.73407 | 2938.5434 |
| 9/16 | 1.73277 | 2921.0647 | 1.73344 | 2930.0795 | 1.73411 | 2939.1081 |
| 5/8 | 1.73281 | 2921.6277 | 1.73348 | 2930.6433 | 1.73415 | 2939.6729 |
| 11/16 | 1.73285 | 2922.1908 | 1.73352 | 2931.2073 | 1.73419 | 2940.2377 |
| 3/4 | 1.73290 | 2922.7539 | 1.73357 | 2931.7713 | 1.73423 | 2940.8025 |
| 13/16 | 1.73294 | 2923.3171 | 1.73361 | 2932.3353 | 1.73427 | 2941.3674 |
| 7/8 | 1.73298 | 2923.8803 | 1.73365 | 2932.8994 | 1.73432 | 2941.9324 |
| 15/16 | 1.73302 | 2924.4436 | 1.73369 | 2933.4636 | 1.73436 | 2942.4974 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.73440 | 2943.0625 | 1.73507 | 2952.1111 | 1.73573 | 2961.1736 |
| 1/16 | 1.73444 | 2943.6276 | 1.73511 | 2952.6771 | 1.73577 | 2961.7405 |
| 1/8 | 1.73448 | 2944.1928 | 1.73515 | 2953.2432 | 1.73582 | 2962.3074 |
| 3/16 | 1.73452 | 2944.7581 | 1.73519 | 2953.8093 | 1.73586 | 2962.8744 |
| 1/4 | 1.73457 | 2945.3234 | 1.73523 | 2954.3754 | 1.73590 | 2963.4414 |
| 5/16 | 1.73461 | 2945.8887 | 1.73527 | 2954.9417 | 1.73594 | 2964.0085 |
| 3/8 | 1.73465 | 2946.4541 | 1.73532 | 2955.5079 | 1.73598 | 2964.5756 |
| 7/16 | 1.73469 | 2947.0196 | 1.73536 | 2956.0742 | 1.73602 | 2965.1428 |
| 1/2 | 1.73473 | 2947.5851 | 1.73540 | 2956.6406 | 1.73606 | 2965.7101 |
| 9/16 | 1.73477 | 2948.1506 | 1.73544 | 2957.2071 | 1.73611 | 2966.2774 |
| 5/8 | 1.73482 | 2948.7163 | 1.73548 | 2957.7735 | 1.73615 | 2966.8447 |
| 11/16 | 1.73486 | 2949.2819 | 1.73552 | 2958.3401 | 1.73619 | 2967.4121 |
| 3/4 | 1.73490 | 2949.8477 | 1.73557 | 2958.9067 | 1.73623 | 2967.9796 |
| 13/16 | 1.73494 | 2950.4134 | 1.73561 | 2959.4733 | 1.73627 | 2968.5471 |
| 7/8 | 1.73498 | 2950.9793 | 1.73565 | 2960.0400 | 1.73631 | 2969.1147 |
| 15/16 | 1.73502 | 2951.5452 | 1.73569 | 2960.6068 | 1.73636 | 2969.6823 |

| Fraction of an inch | 6′ | | 7″ | | 8′ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.73640 | 2970.2500 | 1.73706 | 2979.3403 | 1.73772 | 2988.4444 |
| 1/16 | 1.73644 | 2970.8177 | 1.73710 | 2979.9089 | 1.73776 | 2989.0139 |
| 1/8 | 1.73648 | 2971.3855 | 1.73714 | 2980.4775 | 1.73781 | 2989.5834 |
| 3/16 | 1.73652 | 2971.9534 | 1.73718 | 2981.0463 | 1.73785 | 2990.1530 |
| 1/4 | 1.73656 | 2972.5213 | 1.73723 | 2981.6150 | 1.73789 | 2990.7227 |
| 5/16 | 1.73660 | 2973.0892 | 1.73727 | 2982.1838 | 1.73793 | 2991.2923 |
| 3/8 | 1.73665 | 2973.6572 | 1.73731 | 2982.7527 | 1.73797 | 2991.8621 |
| 7/16 | 1.73669 | 2974.2253 | 1.73735 | 2983.3216 | 1.73801 | 2992.4319 |
| 1/2 | 1.73673 | 2974.7934 | 1.73739 | 2983.8906 | 1.73805 | 2993.0017 |
| 9/16 | 1.73677 | 2975.3616 | 1.73743 | 2984.4597 | 1.73809 | 2993.5716 |
| 5/8 | 1.73681 | 2975.9298 | 1.73747 | 2985.0288 | 1.73814 | 2994.1416 |
| 11/16 | 1.73685 | 2976.4981 | 1.73752 | 2985.5979 | 1.73818 | 2994.7116 |
| 3/4 | 1.73689 | 2977.0664 | 1.73756 | 2986.1671 | 1.73822 | 2995.2817 |
| 13/16 | 1.73694 | 2977.6348 | 1.73760 | 2986.7364 | 1.73826 | 2995.8518 |
| 7/8 | 1.73698 | 2978.2032 | 1.73764 | 2987.3057 | 1.73830 | 2996.4220 |
| 15/16 | 1.73702 | 2978.7717 | 1.73768 | 2987.8750 | 1.73834 | 2996.9922 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.73838 | 2997.5625 | 1.73904 | 3006.6944 | 1.73970 | 3015.8403 |
| 1/16 | 1.73843 | 2998.1328 | 1.73909 | 3007.2657 | 1.73975 | 3016.4124 |
| 1/8 | 1.73847 | 2998.7032 | 1.73913 | 3007.8369 | 1.73979 | 3016.9845 |
| 3/16 | 1.73851 | 2999.2737 | 1.73917 | 3008.4082 | 1.73983 | 3017.5567 |
| 1/4 | 1.73855 | 2999.8442 | 1.73921 | 3008.9796 | 1.73987 | 3018.1289 |
| 5/16 | 1.73859 | 3000.4147 | 1.73925 | 3009.5510 | 1.73991 | 3018.7012 |
| 3/8 | 1.73863 | 3000.9854 | 1.73929 | 3010.1225 | 1.73995 | 3019.2735 |
| 7/16 | 1.73867 | 3001.5560 | 1.73933 | 3010.6940 | 1.73999 | 3019.8459 |
| 1/2 | 1.73871 | 3002.1267 | 1.73937 | 3011.2656 | 1.74003 | 3020.4184 |
| 9/16 | 1.73876 | 3002.6975 | 1.73942 | 3011.8373 | 1.74007 | 3020.9909 |
| 5/8 | 1.73880 | 3003.2683 | 1.73946 | 3012.4090 | 1.74012 | 3021.5635 |
| 11/16 | 1.73884 | 3003.8392 | 1.73950 | 3012.9807 | 1.74016 | 3022.1361 |
| 3/4 | 1.73888 | 3004.4102 | 1.73954 | 3013.5525 | 1.74020 | 3022.7088 |
| 13/16 | 1.73892 | 3004.9811 | 1.73958 | 3014.1244 | 1.74024 | 3023.2815 |
| 7/8 | 1.73896 | 3005.5522 | 1.73962 | 3014.6963 | 1.74028 | 3023.8543 |
| 15/16 | 1.73900 | 3006.1233 | 1.73966 | 3015.2683 | 1.74032 | 3024.4271 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.74036 | 3025.0000 | 1.74102 | 3034.1736 | 1.74168 | 3043.3611 |
| 1/16 | 1.74040 | 3025.5729 | 1.74106 | 3034.7474 | 1.74172 | 3043.9358 |
| 1/8 | 1.74044 | 3026.1459 | 1.74110 | 3035.3213 | 1.74176 | 3044.5105 |
| 3/16 | 1.74049 | 3026.7190 | 1.74114 | 3035.8952 | 1.74180 | 3045.0853 |
| 1/4 | 1.74053 | 3027.2921 | 1.74118 | 3036.4692 | 1.74184 | 3045.6602 |
| 5/16 | 1.74057 | 3027.8653 | 1.74123 | 3037.0432 | 1.74188 | 3046.2351 |
| 3/8 | 1.74061 | 3028.4385 | 1.74127 | 3037.6173 | 1.74192 | 3046.8100 |
| 7/16 | 1.74065 | 3029.0117 | 1.74131 | 3038.1914 | 1.74196 | 3047.3850 |
| 1/2 | 1.74069 | 3029.5851 | 1.74135 | 3038.7656 | 1.74200 | 3047.9601 |
| 9/16 | 1.74073 | 3030.1584 | 1.74139 | 3039.3399 | 1.74205 | 3048.5352 |
| 5/8 | 1.74077 | 3030.7319 | 1.74143 | 3039.9142 | 1.74209 | 3049.1104 |
| 11/16 | 1.74081 | 3031.3054 | 1.74147 | 3040.4885 | 1.74213 | 3049.6856 |
| 3/4 | 1.74086 | 3031.8789 | 1.74151 | 3041.0629 | 1.74217 | 3050.2609 |
| 13/16 | 1.74090 | 3032.4525 | 1.74155 | 3041.6374 | 1.74221 | 3050.8362 |
| 7/8 | 1.74094 | 3033.0262 | 1.74159 | 3042.2119 | 1.74225 | 3051.4116 |
| 15/16 | 1.74098 | 3033.5999 | 1.74164 | 3042.7865 | 1.74229 | 3051.9870 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.74233 | 3052.5625 | 1.74299 | 3061.7778 | 1.74364 | 3071.0069 |
| 1/16 | 1.74237 | 3053.1380 | 1.74303 | 3062.3542 | 1.74368 | 3071.5842 |
| 1/8 | 1.74241 | 3053.7137 | 1.74307 | 3062.9307 | 1.74372 | 3072.1616 |
| 3/16 | 1.74246 | 3054.2893 | 1.74311 | 3063.5072 | 1.74376 | 3072.7390 |
| 1/4 | 1.74250 | 3054.8650 | 1.74315 | 3064.0838 | 1.74380 | 3073.3164 |
| 5/16 | 1.74254 | 3055.4408 | 1.74319 | 3064.6604 | 1.74384 | 3073.8939 |
| 3/8 | 1.74258 | 3056.0166 | 1.74323 | 3065.2371 | 1.74389 | 3074.4715 |
| 7/16 | 1.74262 | 3056.5925 | 1.74327 | 3065.8138 | 1.74393 | 3075.0491 |
| 1/2 | 1.74266 | 3057.1684 | 1.74331 | 3066.3906 | 1.74397 | 3075.6267 |
| 9/16 | 1.74270 | 3057.7444 | 1.74335 | 3066.9675 | 1.74401 | 3076.2045 |
| 5/8 | 1.74274 | 3058.3204 | 1.74340 | 3067.5444 | 1.74405 | 3076.7822 |
| 11/16 | 1.74278 | 3058.8965 | 1.74344 | 3068.1213 | 1.74409 | 3077.3601 |
| 3/4 | 1.74282 | 3059.4727 | 1.74348 | 3068.6984 | 1.74413 | 3077.9379 |
| 13/16 | 1.74286 | 3060.0489 | 1.74352 | 3069.2754 | 1.74417 | 3078.5159 |
| 7/8 | 1.74291 | 3060.6251 | 1.74356 | 3069.8525 | 1.74421 | 3079.0939 |
| 15/16 | 1.74295 | 3061.2014 | 1.74360 | 3070.4297 | 1.74425 | 3079.6719 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.74429 | 3080.2500 | 1.74494 | 3089.5069 | 1.74560 | 3098.7778 |
| 1/16 | 1.74433 | 3080.8282 | 1.74499 | 3090.0860 | 1.74564 | 3099.3577 |
| 1/8 | 1.74437 | 3081.4064 | 1.74503 | 3090.6650 | 1.74568 | 3099.9376 |
| 3/16 | 1.74442 | 3081.9846 | 1.74507 | 3091.2442 | 1.74572 | 3100.5176 |
| 1/4 | 1.74446 | 3082.5629 | 1.74511 | 3091.8234 | 1.74576 | 3101.0977 |
| 5/16 | 1.74450 | 3083.1413 | 1.74515 | 3092.4026 | 1.74580 | 3101.6778 |
| 3/8 | 1.74454 | 3083.7197 | 1.74519 | 3092.9819 | 1.74584 | 3102.2579 |
| 7/16 | 1.74458 | 3084.2982 | 1.74523 | 3093.5612 | 1.74588 | 3102.8381 |
| 1/2 | 1.74462 | 3084.8767 | 1.74527 | 3094.1406 | 1.74592 | 3103.4184 |
| 9/16 | 1.74466 | 3085.4553 | 1.74531 | 3094.7201 | 1.74596 | 3103.9987 |
| 5/8 | 1.74470 | 3086.0340 | 1.74535 | 3095.2996 | 1.74600 | 3104.5791 |
| 11/16 | 1.74474 | 3086.6127 | 1.74539 | 3095.8792 | 1.74604 | 3105.1595 |
| 3/4 | 1.74478 | 3087.1914 | 1.74543 | 3096.4588 | 1.74608 | 3105.7400 |
| 13/16 | 1.74482 | 3087.7702 | 1.74547 | 3097.0384 | 1.74612 | 3106.3206 |
| 7/8 | 1.74486 | 3088.3491 | 1.74551 | 3097.6182 | 1.74616 | 3106.9012 |
| 15/16 | 1.74490 | 3088.9280 | 1.74555 | 3098.1979 | 1.74620 | 3107.4818 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.74624 | 3108.0625 | 1.74689 | 3117.3611 | 1.74754 | 3126.6736 |
| 1/16 | 1.74629 | 3108.6433 | 1.74693 | 3117.9427 | 1.74758 | 3127.2561 |
| 1/8 | 1.74633 | 3109.2241 | 1.74697 | 3118.5244 | 1.74762 | 3127.8387 |
| 3/16 | 1.74637 | 3109.8049 | 1.74702 | 3119.1061 | 1.74766 | 3128.4213 |
| 1/4 | 1.74641 | 3110.3859 | 1.74706 | 3119.6879 | 1.74770 | 3129.0039 |
| 5/16 | 1.74645 | 3110.9668 | 1.74710 | 3120.2698 | 1.74774 | 3129.5866 |
| 3/8 | 1.74649 | 3111.5479 | 1.74714 | 3120.8517 | 1.74778 | 3130.1694 |
| 7/16 | 1.74653 | 3112.1289 | 1.74718 | 3121.4336 | 1.74782 | 3130.7522 |
| 1/2 | 1.74657 | 3112.7101 | 1.74722 | 3122.0156 | 1.74786 | 3131.3351 |
| 9/16 | 1.74661 | 3113.2913 | 1.74726 | 3122.5977 | 1.74791 | 3131.9180 |
| 5/8 | 1.74665 | 3113.8725 | 1.74730 | 3123.1798 | 1.74795 | 3132.5010 |
| 11/16 | 1.74669 | 3114.4538 | 1.74734 | 3123.7620 | 1.74799 | 3133.0840 |
| 3/4 | 1.74673 | 3115.0352 | 1.74738 | 3124.3442 | 1.74803 | 3133.6671 |
| 13/16 | 1.74677 | 3115.6166 | 1.74742 | 3124.9265 | 1.74807 | 3134.2502 |
| 7/8 | 1.74681 | 3116.1980 | 1.74746 | 3125.5088 | 1.74811 | 3134.8334 |
| 15/16 | 1.74685 | 3116.7795 | 1.74750 | 3126.0912 | 1.74815 | 3135.4167 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.74819 | 3136.0000 | 1.74883 | 3145.3403 | 1.74948 | 3154.6944 |
| 1/16 | 1.74823 | 3136.5834 | 1.74887 | 3145.9245 | 1.74952 | 3155.2795 |
| 1/8 | 1.74827 | 3137.1668 | 1.74891 | 3146.5088 | 1.74956 | 3155.8647 |
| 3/16 | 1.74831 | 3137.7502 | 1.74895 | 3147.0931 | 1.74960 | 3156.4499 |
| 1/4 | 1.74835 | 3138.3338 | 1.74900 | 3147.6775 | 1.74964 | 3157.0352 |
| 5/16 | 1.74839 | 3138.9173 | 1.74904 | 3148.2620 | 1.74968 | 3157.6205 |
| 3/8 | 1.74843 | 3139.5010 | 1.74908 | 3148.8465 | 1.74972 | 3158.2058 |
| 7/16 | 1.74847 | 3140.0847 | 1.74912 | 3149.4310 | 1.74976 | 3158.7913 |
| 1/2 | 1.74851 | 3140.6684 | 1.74916 | 3150.0156 | 1.74980 | 3159.3767 |
| 9/16 | 1.74855 | 3141.2522 | 1.74920 | 3150.6003 | 1.74984 | 3159.9623 |
| 5/8 | 1.74859 | 3141.8360 | 1.74924 | 3151.1850 | 1.74988 | 3160.5479 |
| 11/16 | 1.74863 | 3142.4199 | 1.74928 | 3151.7698 | 1.74992 | 3161.1335 |
| 3/4 | 1.74867 | 3143.0039 | 1.74932 | 3152.3546 | 1.74996 | 3161.7192 |
| 13/16 | 1.74871 | 3143.5879 | 1.74936 | 3152.9395 | 1.75000 | 3162.3049 |
| 7/8 | 1.74875 | 3144.1720 | 1.74940 | 3153.5244 | 1.75004 | 3162.8907 |
| 15/16 | 1.74879 | 3144.7561 | 1.74944 | 3154.1094 | 1.75008 | 3163.4766 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.75012 | 3164.0625 | 1.75077 | 3173.4444 | 1.75141 | 3182.8403 |
| 1/16 | 1.75016 | 3164.6485 | 1.75081 | 3174.0313 | 1.75145 | 3183.4280 |
| 1/8 | 1.75020 | 3165.2345 | 1.75085 | 3174.6182 | 1.75149 | 3184.0157 |
| 3/16 | 1.75024 | 3165.8206 | 1.75089 | 3175.2051 | 1.75153 | 3184.6035 |
| 1/4 | 1.75028 | 3166.4067 | 1.75093 | 3175.7921 | 1.75157 | 3185.1914 |
| 5/16 | 1.75032 | 3166.9929 | 1.75097 | 3176.3792 | 1.75161 | 3185.7793 |
| 3/8 | 1.75036 | 3167.5791 | 1.75101 | 3176.9663 | 1.75165 | 3186.3673 |
| 7/16 | 1.75040 | 3168.1654 | 1.75105 | 3177.5534 | 1.75169 | 3186.9553 |
| 1/2 | 1.75044 | 3168.7517 | 1.75109 | 3178.1406 | 1.75173 | 3187.5434 |
| 9/16 | 1.75048 | 3169.3381 | 1.75113 | 3178.7279 | 1.75177 | 3188.1315 |
| 5/8 | 1.75052 | 3169.9246 | 1.75117 | 3179.3152 | 1.75181 | 3188.7197 |
| 11/16 | 1.75056 | 3170.5111 | 1.75121 | 3179.9026 | 1.75185 | 3189.3080 |
| 3/4 | 1.75060 | 3171.0977 | 1.75125 | 3180.4900 | 1.75189 | 3189.8963 |
| 13/16 | 1.75064 | 3171.6843 | 1.75129 | 3181.0775 | 1.75193 | 3190.4846 |
| 7/8 | 1.75069 | 3172.2709 | 1.75133 | 3181.6650 | 1.75197 | 3191.0730 |
| 15/16 | 1.75073 | 3172.8577 | 1.75137 | 3182.2526 | 1.75201 | 3191.6615 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.75205 | 3192.2500 | 1.75269 | 3201.6736 | 1.75333 | 3211.1111 |
| 1/16 | 1.75209 | 3192.8386 | 1.75273 | 3202.2630 | 1.75337 | 3211.7014 |
| 1/8 | 1.75213 | 3193.4272 | 1.75277 | 3202.8525 | 1.75341 | 3212.2918 |
| 3/16 | 1.75217 | 3194.0159 | 1.75281 | 3203.4421 | 1.75345 | 3212.8822 |
| 1/4 | 1.75221 | 3194.6046 | 1.75285 | 3204.0317 | 1.75349 | 3213.4727 |
| 5/16 | 1.75225 | 3195.1934 | 1.75289 | 3204.6213 | 1.75353 | 3214.0632 |
| 3/8 | 1.75229 | 3195.7822 | 1.75293 | 3205.2110 | 1.75357 | 3214.6538 |
| 7/16 | 1.75233 | 3196.3711 | 1.75297 | 3205.8008 | 1.75361 | 3215.2444 |
| 1/2 | 1.75237 | 3196.9601 | 1.75301 | 3206.3906 | 1.75365 | 3215.8351 |
| 9/16 | 1.75241 | 3197.5491 | 1.75305 | 3206.9805 | 1.75369 | 3216.4258 |
| 5/8 | 1.75245 | 3198.1381 | 1.75309 | 3207.5704 | 1.75373 | 3217.0166 |
| 11/16 | 1.75249 | 3198.7272 | 1.75313 | 3208.1604 | 1.75377 | 3217.6074 |
| 3/4 | 1.75253 | 3199.3164 | 1.75317 | 3208.7504 | 1.75381 | 3218.1984 |
| 13/16 | 1.75257 | 3199.9056 | 1.75321 | 3209.3405 | 1.75385 | 3218.7893 |
| 7/8 | 1.75261 | 3200.4949 | 1.75325 | 3209.9307 | 1.75389 | 3219.3803 |
| 15/16 | 1.75265 | 3201.0842 | 1.75329 | 3210.5209 | 1.75393 | 3219.9714 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.75397 | 3220.5625 | 1.75460 | 3230.0278 | 1.75524 | 3239.5069 |
| 1/16 | 1.75401 | 3221.1537 | 1.75464 | 3230.6198 | 1.75528 | 3240.0999 |
| 1/8 | 1.75405 | 3221.7449 | 1.75468 | 3231.2119 | 1.75532 | 3240.6928 |
| 3/16 | 1.75409 | 3222.3362 | 1.75472 | 3231.8041 | 1.75536 | 3241.2858 |
| 1/4 | 1.75413 | 3222.9275 | 1.75476 | 3232.3963 | 1.75540 | 3241.8789 |
| 5/16 | 1.75417 | 3223.5189 | 1.75480 | 3232.9885 | 1.75544 | 3242.4720 |
| 3/8 | 1.75420 | 3224.1104 | 1.75484 | 3233.5808 | 1.75548 | 3243.0652 |
| 7/16 | 1.75424 | 3224.7019 | 1.75488 | 3234.1732 | 1.75552 | 3243.6584 |
| 1/2 | 1.75428 | 3225.2934 | 1.75492 | 3234.7656 | 1.75556 | 3244.2517 |
| 9/16 | 1.75432 | 3225.8850 | 1.75496 | 3235.3581 | 1.75560 | 3244.8451 |
| 5/8 | 1.75436 | 3226.4767 | 1.75500 | 3235.9506 | 1.75564 | 3245.4385 |
| 11/16 | 1.75440 | 3227.0684 | 1.75504 | 3236.5432 | 1.75568 | 3246.0319 |
| 3/4 | 1.75444 | 3227.6602 | 1.75508 | 3237.1359 | 1.75572 | 3246.6254 |
| 13/16 | 1.75448 | 3228.2520 | 1.75512 | 3237.7285 | 1.75576 | 3247.2190 |
| 7/8 | 1.75452 | 3228.8439 | 1.75516 | 3238.3213 | 1.75580 | 3247.8126 |
| 15/16 | 1.75456 | 3229.4358 | 1.75520 | 3238.9141 | 1.75584 | 3248.4063 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.75587 | 3249.0000 | 1.75651 | 3258.5069 | 1.75714 | 3268.0278 |
| 1/16 | 1.75591 | 3249.5938 | 1.75655 | 3259.1016 | 1.75718 | 3268.6233 |
| 1/8 | 1.75595 | 3250.1876 | 1.75659 | 3259.6963 | 1.75722 | 3269.2189 |
| 3/16 | 1.75599 | 3250.7815 | 1.75663 | 3260.2910 | 1.75726 | 3269.8145 |
| 1/4 | 1.75603 | 3251.3754 | 1.75667 | 3260.8859 | 1.75730 | 3270.4102 |
| 5/16 | 1.75607 | 3251.9694 | 1.75671 | 3261.4807 | 1.75734 | 3271.0059 |
| 3/8 | 1.75611 | 3252.5635 | 1.75675 | 3262.0756 | 1.75738 | 3271.6017 |
| 7/16 | 1.75615 | 3253.1576 | 1.75679 | 3262.6706 | 1.75742 | 3272.1975 |
| 1/2 | 1.75619 | 3253.7517 | 1.75683 | 3263.2656 | 1.75746 | 3272.7934 |
| 9/16 | 1.75623 | 3254.3459 | 1.75687 | 3263.8607 | 1.75750 | 3273.3894 |
| 5/8 | 1.75627 | 3254.9402 | 1.75691 | 3264.4558 | 1.75754 | 3273.9854 |
| 11/16 | 1.75631 | 3255.5345 | 1.75694 | 3265.0510 | 1.75758 | 3274.5814 |
| 3/4 | 1.75635 | 3256.1289 | 1.75698 | 3265.6463 | 1.75762 | 3275.1775 |
| 13/16 | 1.75639 | 3256.7233 | 1.75702 | 3266.2416 | 1.75766 | 3275.7737 |
| 7/8 | 1.75643 | 3257.3178 | 1.75706 | 3266.8369 | 1.75770 | 3276.3699 |
| 15/16 | 1.75647 | 3257.9124 | 1.75710 | 3267.4323 | 1.75774 | 3276.9662 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.75778 | 3277.5625 | 1.75841 | 3287.1111 | 1.75904 | 3296.6736 |
| 1/16 | 1.75782 | 3278.1589 | 1.75845 | 3287.7084 | 1.75908 | 3297.2717 |
| 1/8 | 1.75785 | 3278.7553 | 1.75849 | 3288.3057 | 1.75912 | 3297.8699 |
| 3/16 | 1.75789 | 3279.3518 | 1.75853 | 3288.9030 | 1.75916 | 3298.4681 |
| 1/4 | 1.75793 | 3279.9484 | 1.75856 | 3289.5004 | 1.75920 | 3299.0664 |
| 5/16 | 1.75797 | 3280.5449 | 1.75860 | 3290.0979 | 1.75923 | 3299.6647 |
| 3/8 | 1.75801 | 3281.1416 | 1.75864 | 3290.6954 | 1.75927 | 3300.2631 |
| 7/16 | 1.75805 | 3281.7383 | 1.75868 | 3291.2930 | 1.75931 | 3300.8616 |
| 1/2 | 1.75809 | 3282.3351 | 1.75872 | 3291.8906 | 1.75935 | 3301.4601 |
| 9/16 | 1.75813 | 3282.9319 | 1.75876 | 3292.4883 | 1.75939 | 3302.0586 |
| 5/8 | 1.75817 | 3283.5288 | 1.75880 | 3293.0860 | 1.75943 | 3302.6572 |
| 11/16 | 1.75821 | 3284.1257 | 1.75884 | 3293.6838 | 1.75947 | 3303.2559 |
| 3/4 | 1.75825 | 3284.7227 | 1.75888 | 3294.2817 | 1.75951 | 3303.8546 |
| 13/16 | 1.75829 | 3285.3197 | 1.75892 | 3294.8796 | 1.75955 | 3304.4534 |
| 7/8 | 1.75833 | 3285.9168 | 1.75896 | 3295.4775 | 1.75959 | 3305.0522 |
| 15/16 | 1.75837 | 3286.5139 | 1.75900 | 3296.0755 | 1.75963 | 3305.6511 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.75967 | 3306.2500 | 1.76030 | 3315.8403 | 1.76092 | 3325.4444 |
| 1/16 | 1.75971 | 3306.8490 | 1.76034 | 3316.4401 | 1.76096 | 3326.0452 |
| 1/8 | 1.75975 | 3307.4480 | 1.76038 | 3317.0400 | 1.76100 | 3326.6459 |
| 3/16 | 1.75979 | 3308.0471 | 1.76041 | 3317.6400 | 1.76104 | 3327.2468 |
| 1/4 | 1.75983 | 3308.6463 | 1.76045 | 3318.2400 | 1.76108 | 3327.8477 |
| 5/16 | 1.75986 | 3309.2455 | 1.76049 | 3318.8401 | 1.76112 | 3328.4486 |
| 3/8 | 1.75990 | 3309.8447 | 1.76053 | 3319.4402 | 1.76116 | 3329.0496 |
| 7/16 | 1.75994 | 3310.4440 | 1.76057 | 3320.0404 | 1.76120 | 3329.6506 |
| 1/2 | 1.75998 | 3311.0434 | 1.76061 | 3320.6406 | 1.76124 | 3330.2517 |
| 9/16 | 1.76002 | 3311.6428 | 1.76065 | 3321.2409 | 1.76128 | 3330.8529 |
| 5/8 | 1.76006 | 3312.2423 | 1.76069 | 3321.8413 | 1.76132 | 3331.4541 |
| 11/16 | 1.76010 | 3312.8418 | 1.76073 | 3322.4417 | 1.76136 | 3332.0554 |
| 3/4 | 1.76014 | 3313.4414 | 1.76077 | 3323.0421 | 1.76140 | 3332.6567 |
| 13/16 | 1.76018 | 3314.0410 | 1.76081 | 3323.6426 | 1.76143 | 3333.2581 |
| 7/8 | 1.76022 | 3314.6407 | 1.76085 | 3324.2432 | 1.76147 | 3333.8595 |
| 15/16 | 1.76026 | 3315.2405 | 1.76089 | 3324.8438 | 1.76151 | 3334.4610 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.76155 | 3335.0625 | 1.76218 | 3344.6944 | 1.76280 | 3354.3403 |
| 1/16 | 1.76159 | 3335.6641 | 1.76222 | 3345.2969 | 1.76284 | 3354.9436 |
| 1/8 | 1.76163 | 3336.2657 | 1.76226 | 3345.8994 | 1.76288 | 3355.5470 |
| 3/16 | 1.76167 | 3336.8674 | 1.76230 | 3346.5020 | 1.76292 | 3356.1504 |
| 1/4 | 1.76171 | 3337.4692 | 1.76233 | 3347.1046 | 1.76296 | 3356.7539 |
| 5/16 | 1.76175 | 3338.0710 | 1.76237 | 3347.7073 | 1.76300 | 3357.3574 |
| 3/8 | 1.76179 | 3338.6729 | 1.76241 | 3348.3100 | 1.76304 | 3357.9610 |
| 7/16 | 1.76183 | 3339.2748 | 1.76245 | 3348.9128 | 1.76308 | 3358.5647 |
| 1/2 | 1.76187 | 3339.8767 | 1.76249 | 3349.5156 | 1.76312 | 3359.1684 |
| 9/16 | 1.76190 | 3340.4788 | 1.76253 | 3350.1185 | 1.76315 | 3359.7722 |
| 5/8 | 1.76194 | 3341.0808 | 1.76257 | 3350.7215 | 1.76319 | 3360.3760 |
| 11/16 | 1.76198 | 3341.6830 | 1.76261 | 3351.3245 | 1.76323 | 3360.9798 |
| 3/4 | 1.76202 | 3342.2852 | 1.76265 | 3351.9275 | 1.76327 | 3361.5838 |
| 13/16 | 1.76206 | 3342.8874 | 1.76269 | 3352.5306 | 1.76331 | 3362.1877 |
| 7/8 | 1.76210 | 3343.4897 | 1.76273 | 3353.1338 | 1.76335 | 3362.7918 |
| 15/16 | 1.76214 | 3344.0920 | 1.76276 | 3353.7370 | 1.76339 | 3363.3959 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.76343 | 3364.0000 | 1.76405 | 3373.6736 | 1.76467 | 3383.3611 |
| 1/16 | 1.76347 | 3364.6042 | 1.76409 | 3374.2787 | 1.76471 | 3383.9670 |
| 1/8 | 1.76351 | 3365.2084 | 1.76413 | 3374.8838 | 1.76475 | 3384.5730 |
| 3/16 | 1.76354 | 3365.8127 | 1.76417 | 3375.4890 | 1.76479 | 3385.1791 |
| 1/4 | 1.76358 | 3366.4171 | 1.76421 | 3376.0942 | 1.76483 | 3385.7852 |
| 5/16 | 1.76362 | 3367.0215 | 1.76425 | 3376.6995 | 1.76487 | 3386.3913 |
| 3/8 | 1.76366 | 3367.6260 | 1.76429 | 3377.3048 | 1.76491 | 3386.9975 |
| 7/16 | 1.76370 | 3368.2305 | 1.76432 | 3377.9102 | 1.76495 | 3387.6038 |
| 1/2 | 1.76374 | 3368.8351 | 1.76436 | 3378.5156 | 1.76499 | 3388.2101 |
| 9/16 | 1.76378 | 3369.4397 | 1.76440 | 3379.1211 | 1.76502 | 3388.8164 |
| 5/8 | 1.76382 | 3370.0444 | 1.76444 | 3379.7267 | 1.76506 | 3389.4229 |
| 11/16 | 1.76386 | 3370.6491 | 1.76448 | 3380.3323 | 1.76510 | 3390.0293 |
| 3/4 | 1.76390 | 3371.2539 | 1.76452 | 3380.9379 | 1.76514 | 3390.6359 |
| 13/16 | 1.76393 | 3371.8588 | 1.76456 | 3381.5436 | 1.76518 | 3391.2424 |
| 7/8 | 1.76397 | 3372.4637 | 1.76460 | 3382.1494 | 1.76522 | 3391.8491 |
| 15/16 | 1.76401 | 3373.0686 | 1.76464 | 3382.7552 | 1.76526 | 3392.4558 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.76530 | 3393.0625 | 1.76592 | 3402.7778 | 1.76654 | 3412.5069 |
| 1/16 | 1.76533 | 3393.6693 | 1.76596 | 3403.3854 | 1.76658 | 3413.1155 |
| 1/8 | 1.76537 | 3394.2762 | 1.76599 | 3403.9932 | 1.76661 | 3413.7241 |
| 3/16 | 1.76541 | 3394.8831 | 1.76603 | 3404.6009 | 1.76665 | 3414.3327 |
| 1/4 | 1.76545 | 3395.4900 | 1.76607 | 3405.2088 | 1.76669 | 3414.9414 |
| 5/16 | 1.76549 | 3396.0970 | 1.76611 | 3405.8167 | 1.76673 | 3415.5502 |
| 3/8 | 1.76553 | 3396.7041 | 1.76615 | 3406.4246 | 1.76677 | 3416.1590 |
| 7/16 | 1.76557 | 3397.3112 | 1.76619 | 3407.0326 | 1.76681 | 3416.7678 |
| 1/2 | 1.76561 | 3397.9184 | 1.76623 | 3407.6406 | 1.76685 | 3417.3767 |
| 9/16 | 1.76565 | 3398.5256 | 1.76627 | 3408.2487 | 1.76689 | 3417.9857 |
| 5/8 | 1.76568 | 3399.1329 | 1.76630 | 3408.8569 | 1.76692 | 3418.5947 |
| 11/16 | 1.76572 | 3399.7403 | 1.76634 | 3409.4651 | 1.76696 | 3419.2038 |
| 3/4 | 1.76576 | 3400.3477 | 1.76638 | 3410.0734 | 1.76700 | 3419.8129 |
| 13/16 | 1.76580 | 3400.9551 | 1.76642 | 3410.6817 | 1.76704 | 3420.4221 |
| 7/8 | 1.76584 | 3401.5626 | 1.76646 | 3411.2900 | 1.76708 | 3421.0314 |
| 15/16 | 1.76588 | 3402.1702 | 1.76650 | 3411.8985 | 1.76712 | 3421.6407 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.76716 | 3422.2500 | 1.76777 | 3432.0069 | 1.76839 | 3441.7778 |
| 1/16 | 1.76719 | 3422.8594 | 1.76781 | 3432.6172 | 1.76843 | 3442.3889 |
| 1/8 | 1.76723 | 3423.4689 | 1.76785 | 3433.2275 | 1.76847 | 3443.0001 |
| 3/16 | 1.76727 | 3424.0784 | 1.76789 | 3433.8379 | 1.76851 | 3443.6114 |
| 1/4 | 1.76731 | 3424.6879 | 1.76793 | 3434.4484 | 1.76855 | 3444.2227 |
| 5/16 | 1.76735 | 3425.2976 | 1.76797 | 3435.0588 | 1.76858 | 3444.8340 |
| 3/8 | 1.76739 | 3425.9072 | 1.76801 | 3435.6694 | 1.76862 | 3445.4454 |
| 7/16 | 1.76743 | 3426.5170 | 1.76804 | 3436.2800 | 1.76866 | 3446.0569 |
| 1/2 | 1.76747 | 3427.1267 | 1.76808 | 3436.8906 | 1.76870 | 3446.6684 |
| 9/16 | 1.76750 | 3427.7366 | 1.76812 | 3437.5013 | 1.76874 | 3447.2800 |
| 5/8 | 1.76754 | 3428.3465 | 1.76816 | 3438.1121 | 1.76878 | 3447.8916 |
| 11/16 | 1.76758 | 3428.9564 | 1.76820 | 3438.7229 | 1.76882 | 3448.5033 |
| 3/4 | 1.76762 | 3429.5664 | 1.76824 | 3439.3338 | 1.76885 | 3449.1150 |
| 13/16 | 1.76766 | 3430.1765 | 1.76828 | 3439.9447 | 1.76889 | 3449.7268 |
| 7/8 | 1.76770 | 3430.7866 | 1.76831 | 3440.5557 | 1.76893 | 3450.3387 |
| 15/16 | 1.76774 | 3431.3967 | 1.76835 | 3441.1667 | 1.76897 | 3450.9505 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.76901 | 3451.5625 | 1.76962 | 3461.3611 | 1.77024 | 3471.1736 |
| 1/16 | 1.76905 | 3452.1745 | 1.76966 | 3461.9740 | 1.77028 | 3471.7874 |
| 1/8 | 1.76908 | 3452.7866 | 1.76970 | 3462.5869 | 1.77031 | 3472.4012 |
| 3/16 | 1.76912 | 3453.3987 | 1.76974 | 3463.1999 | 1.77035 | 3473.0150 |
| 1/4 | 1.76916 | 3454.0109 | 1.76978 | 3463.8129 | 1.77039 | 3473.6289 |
| 5/16 | 1.76920 | 3454.6231 | 1.76982 | 3464.4260 | 1.77043 | 3474.2429 |
| 3/8 | 1.76924 | 3455.2354 | 1.76985 | 3465.0392 | 1.77047 | 3474.8569 |
| 7/16 | 1.76928 | 3455.8477 | 1.76989 | 3465.6524 | 1.77051 | 3475.4709 |
| 1/2 | 1.76932 | 3456.4601 | 1.76993 | 3466.2656 | 1.77055 | 3476.0851 |
| 9/16 | 1.76935 | 3457.0725 | 1.76997 | 3466.8789 | 1.77058 | 3476.6992 |
| 5/8 | 1.76939 | 3457.6850 | 1.77001 | 3467.4923 | 1.77062 | 3477.3135 |
| 11/16 | 1.76943 | 3458.2976 | 1.77005 | 3468.1057 | 1.77066 | 3477.9278 |
| 3/4 | 1.76947 | 3458.9102 | 1.77008 | 3468.7192 | 1.77070 | 3478.5421 |
| 13/16 | 1.76951 | 3459.5228 | 1.77012 | 3469.3327 | 1.77074 | 3479.1565 |
| 7/8 | 1.76955 | 3460.1355 | 1.77016 | 3469.9463 | 1.77078 | 3479.7709 |
| 15/16 | 1.76959 | 3460.7483 | 1.77020 | 3470.5599 | 1.77081 | 3480.3854 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.77085 | 3481.0000 | 1.77146 | 3490.8403 | 1.77208 | 3500.6944 |
| 1/16 | 1.77089 | 3481.6146 | 1.77150 | 3491.4558 | 1.77212 | 3501.3108 |
| 1/8 | 1.77093 | 3482.2293 | 1.77154 | 3492.0713 | 1.77215 | 3501.9272 |
| 3/16 | 1.77097 | 3482.8440 | 1.77158 | 3492.6869 | 1.77219 | 3502.5436 |
| 1/4 | 1.77101 | 3483.4588 | 1.77162 | 3493.3025 | 1.77223 | 3503.1602 |
| 5/16 | 1.77104 | 3484.0736 | 1.77166 | 3493.9182 | 1.77227 | 3503.7767 |
| 3/8 | 1.77108 | 3484.6885 | 1.77169 | 3494.5340 | 1.77231 | 3504.3933 |
| 7/16 | 1.77112 | 3485.3034 | 1.77173 | 3495.1498 | 1.77234 | 3505.0100 |
| 1/2 | 1.77116 | 3485.9184 | 1.77177 | 3495.7656 | 1.77238 | 3505.6267 |
| 9/16 | 1.77120 | 3486.5334 | 1.77181 | 3496.3815 | 1.77242 | 3506.2435 |
| 5/8 | 1.77124 | 3487.1485 | 1.77185 | 3496.9975 | 1.77246 | 3506.8604 |
| 11/16 | 1.77127 | 3487.7637 | 1.77189 | 3497.6135 | 1.77250 | 3507.4772 |
| 3/4 | 1.77131 | 3488.3789 | 1.77192 | 3498.2296 | 1.77254 | 3508.0942 |
| 13/16 | 1.77135 | 3488.9942 | 1.77196 | 3498.8457 | 1.77257 | 3508.7112 |
| 7/8 | 1.77139 | 3489.6095 | 1.77200 | 3499.4619 | 1.77261 | 3509.3282 |
| 15/16 | 1.77143 | 3490.2249 | 1.77204 | 3500.0782 | 1.77265 | 3509.9453 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.77269 | 3510.5625 | 1.77330 | 3520.4444 | 1.77391 | 3530.3403 |
| 1/16 | 1.77273 | 3511.1797 | 1.77334 | 3521.0625 | 1.77395 | 3530.9592 |
| 1/8 | 1.77276 | 3511.7970 | 1.77337 | 3521.6807 | 1.77398 | 3531.5782 |
| 3/16 | 1.77280 | 3512.4143 | 1.77341 | 3522.2989 | 1.77402 | 3532.1973 |
| 1/4 | 1.77284 | 3513.0317 | 1.77345 | 3522.9171 | 1.77406 | 3532.8164 |
| 5/16 | 1.77288 | 3513.6491 | 1.77349 | 3523.5354 | 1.77410 | 3533.4356 |
| 3/8 | 1.77292 | 3514.2666 | 1.77353 | 3524.1538 | 1.77414 | 3534.0548 |
| 7/16 | 1.77296 | 3514.8841 | 1.77357 | 3524.7722 | 1.77417 | 3534.6741 |
| 1/2 | 1.77299 | 3515.5017 | 1.77360 | 3525.3906 | 1.77421 | 3535.2934 |
| 9/16 | 1.77303 | 3516.1194 | 1.77364 | 3526.0091 | 1.77425 | 3535.9128 |
| 5/8 | 1.77307 | 3516.7371 | 1.77368 | 3526.6277 | 1.77429 | 3536.5322 |
| 11/16 | 1.77311 | 3517.3548 | 1.77372 | 3527.2463 | 1.77433 | 3537.1517 |
| 3/4 | 1.77315 | 3517.9727 | 1.77376 | 3527.8650 | 1.77436 | 3537.7713 |
| 13/16 | 1.77318 | 3518.5905 | 1.77379 | 3528.4838 | 1.77440 | 3538.3909 |
| 7/8 | 1.77322 | 3519.2084 | 1.77383 | 3529.1025 | 1.77444 | 3539.0105 |
| 15/16 | 1.77326 | 3519.8264 | 1.77387 | 3529.7214 | 1.77448 | 3539.6302 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.77452 | 3540.2500 | 1.77512 | 3550.1736 | 1.77573 | 3560.1111 |
| 1/16 | 1.77455 | 3540.8698 | 1.77516 | 3550.7943 | 1.77577 | 3560.7327 |
| 1/8 | 1.77459 | 3541.4897 | 1.77520 | 3551.4150 | 1.77581 | 3561.3543 |
| 3/16 | 1.77463 | 3542.1096 | 1.77524 | 3552.0358 | 1.77585 | 3561.9759 |
| 1/4 | 1.77467 | 3542.7296 | 1.77528 | 3552.6567 | 1.77588 | 3562.5977 |
| 5/16 | 1.77471 | 3543.3496 | 1.77531 | 3553.2776 | 1.77592 | 3563.2194 |
| 3/8 | 1.77475 | 3543.9697 | 1.77535 | 3553.8985 | 1.77596 | 3563.8413 |
| 7/16 | 1.77478 | 3544.5899 | 1.77539 | 3554.5196 | 1.77600 | 3564.4631 |
| 1/2 | 1.77482 | 3545.2101 | 1.77543 | 3555.1406 | 1.77603 | 3565.0851 |
| 9/16 | 1.77486 | 3545.8303 | 1.77547 | 3555.7617 | 1.77607 | 3565.7071 |
| 5/8 | 1.77490 | 3546.4506 | 1.77550 | 3556.3829 | 1.77611 | 3566.3291 |
| 11/16 | 1.77493 | 3547.0710 | 1.77554 | 3557.0042 | 1.77615 | 3566.9512 |
| 3/4 | 1.77497 | 3547.6914 | 1.77558 | 3557.6254 | 1.77619 | 3567.5734 |
| 13/16 | 1.77501 | 3548.3119 | 1.77562 | 3558.2468 | 1.77622 | 3568.1956 |
| 7/8 | 1.77505 | 3548.9324 | 1.77566 | 3558.8682 | 1.77626 | 3568.8178 |
| 15/16 | 1.77509 | 3549.5530 | 1.77569 | 3559.4896 | 1.77630 | 3569.4401 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.77634 | 3570.0625 | 1.77694 | 3580.0278 | 1.77755 | 3590.0069 |
| 1/16 | 1.77638 | 3570.6849 | 1.77698 | 3580.6511 | 1.77759 | 3590.6311 |
| 1/8 | 1.77641 | 3571.3074 | 1.77702 | 3581.2744 | 1.77762 | 3591.2553 |
| 3/16 | 1.77645 | 3571.9299 | 1.77706 | 3581.8978 | 1.77766 | 3591.8796 |
| 1/4 | 1.77649 | 3572.5525 | 1.77709 | 3582.5213 | 1.77770 | 3592.5039 |
| 5/16 | 1.77653 | 3573.1752 | 1.77713 | 3583.1448 | 1.77774 | 3593.1283 |
| 3/8 | 1.77656 | 3573.7979 | 1.77717 | 3583.7683 | 1.77777 | 3593.7527 |
| 7/16 | 1.77660 | 3574.4206 | 1.77721 | 3584.3920 | 1.77781 | 3594.3772 |
| 1/2 | 1.77664 | 3575.0434 | 1.77725 | 3585.0156 | 1.77785 | 3595.0017 |
| 9/16 | 1.77668 | 3575.6663 | 1.77728 | 3585.6394 | 1.77789 | 3595.6263 |
| 5/8 | 1.77672 | 3576.2892 | 1.77732 | 3586.2631 | 1.77793 | 3596.2510 |
| 11/16 | 1.77675 | 3576.9121 | 1.77736 | 3586.8870 | 1.77796 | 3596.8757 |
| 3/4 | 1.77679 | 3577.5352 | 1.77740 | 3587.5109 | 1.77800 | 3597.5004 |
| 13/16 | 1.77683 | 3578.1582 | 1.77743 | 3588.1348 | 1.77804 | 3598.1252 |
| 7/8 | 1.77687 | 3578.7814 | 1.77747 | 3588.7588 | 1.77808 | 3598.7501 |
| 15/16 | 1.77691 | 3579.4045 | 1.77751 | 3589.3828 | 1.77811 | 3599.3750 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.77815 | 3600.0000 | 1.77875 | 3610.0069 | 1.77936 | 3620.0278 |
| 1/16 | 1.77819 | 3600.6250 | 1.77879 | 3610.6328 | 1.77939 | 3620.6545 |
| 1/8 | 1.77823 | 3601.2501 | 1.77883 | 3611.2588 | 1.77943 | 3621.2814 |
| 3/16 | 1.77826 | 3601.8752 | 1.77887 | 3611.8848 | 1.77947 | 3621.9082 |
| 1/4 | 1.77830 | 3602.5004 | 1.77890 | 3612.5109 | 1.77951 | 3622.5352 |
| 5/16 | 1.77834 | 3603.1257 | 1.77894 | 3613.1370 | 1.77954 | 3623.1621 |
| 3/8 | 1.77838 | 3603.7510 | 1.77898 | 3613.7631 | 1.77958 | 3623.7892 |
| 7/16 | 1.77842 | 3604.3763 | 1.77902 | 3614.3894 | 1.77962 | 3624.4163 |
| 1/2 | 1.77845 | 3605.0017 | 1.77906 | 3615.0156 | 1.77966 | 3625.0434 |
| 9/16 | 1.77849 | 3605.6272 | 1.77909 | 3615.6420 | 1.77969 | 3625.6706 |
| 5/8 | 1.77853 | 3606.2527 | 1.77913 | 3616.2683 | 1.77973 | 3626.2979 |
| 11/16 | 1.77857 | 3606.8783 | 1.77917 | 3616.8948 | 1.77977 | 3626.9252 |
| 3/4 | 1.77860 | 3607.5039 | 1.77921 | 3617.5213 | 1.77981 | 3627.5525 |
| 13/16 | 1.77864 | 3608.1296 | 1.77924 | 3618.1478 | 1.77984 | 3628.1799 |
| 7/8 | 1.77868 | 3608.7553 | 1.77928 | 3618.7744 | 1.77988 | 3628.8074 |
| 15/16 | 1.77872 | 3609.3811 | 1.77932 | 3619.4011 | 1.77992 | 3629.4349 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.77996 | 3630.0625 | 1.78056 | 3640.1111 | 1.78116 | 3650.1736 |
| 1/16 | 1.77999 | 3630.6901 | 1.78059 | 3640.7396 | 1.78119 | 3650.8030 |
| 1/8 | 1.78003 | 3631.3178 | 1.78063 | 3641.3682 | 1.78123 | 3651.4324 |
| 3/16 | 1.78007 | 3631.9456 | 1.78067 | 3641.9968 | 1.78127 | 3652.0619 |
| 1/4 | 1.78011 | 3632.5734 | 1.78071 | 3642.6254 | 1.78131 | 3652.6914 |
| 5/16 | 1.78014 | 3633.2012 | 1.78074 | 3643.2542 | 1.78134 | 3653.3210 |
| 3/8 | 1.78018 | 3633.8291 | 1.78078 | 3643.8829 | 1.78138 | 3653.9506 |
| 7/16 | 1.78022 | 3634.4571 | 1.78082 | 3644.5117 | 1.78142 | 3654.5803 |
| 1/2 | 1.78026 | 3635.0851 | 1.78086 | 3645.1406 | 1.78146 | 3655.2101 |
| 9/16 | 1.78029 | 3635.7131 | 1.78089 | 3645.7696 | 1.78149 | 3655.8399 |
| 5/8 | 1.78033 | 3636.3413 | 1.78093 | 3646.3985 | 1.78153 | 3656.4697 |
| 11/16 | 1.78037 | 3636.9694 | 1.78097 | 3647.0276 | 1.78157 | 3657.0996 |
| 3/4 | 1.78041 | 3637.5977 | 1.78101 | 3647.6567 | 1.78161 | 3657.7296 |
| 13/16 | 1.78044 | 3638.2259 | 1.78104 | 3648.2858 | 1.78164 | 3658.3596 |
| 7/8 | 1.78048 | 3638.8543 | 1.78108 | 3648.9150 | 1.78168 | 3658.9897 |
| 15/16 | 1.78052 | 3639.4827 | 1.78112 | 3649.5443 | 1.78172 | 3659.6198 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.78176 | 3660.2500 | 1.78235 | 3670.3403 | 1.78295 | 3680.4444 |
| 1/16 | 1.78179 | 3660.8802 | 1.78239 | 3670.9714 | 1.78299 | 3681.0764 |
| 1/8 | 1.78183 | 3661.5105 | 1.78243 | 3671.6025 | 1.78302 | 3681.7084 |
| 3/16 | 1.78187 | 3662.1409 | 1.78247 | 3672.2338 | 1.78306 | 3682.3405 |
| 1/4 | 1.78190 | 3662.7713 | 1.78250 | 3672.8650 | 1.78310 | 3682.9727 |
| 5/16 | 1.78194 | 3663.4017 | 1.78254 | 3673.4963 | 1.78314 | 3683.6048 |
| 3/8 | 1.78198 | 3664.0322 | 1.78258 | 3674.1277 | 1.78317 | 3684.2371 |
| 7/16 | 1.78202 | 3664.6628 | 1.78261 | 3674.7591 | 1.78321 | 3684.8694 |
| 1/2 | 1.78205 | 3665.2934 | 1.78265 | 3675.3906 | 1.78325 | 3685.5017 |
| 9/16 | 1.78209 | 3665.9241 | 1.78269 | 3676.0222 | 1.78329 | 3686.1341 |
| 5/8 | 1.78213 | 3666.5548 | 1.78273 | 3676.6538 | 1.78332 | 3686.7666 |
| 11/16 | 1.78217 | 3667.1856 | 1.78276 | 3677.2854 | 1.78336 | 3687.3991 |
| 3/4 | 1.78220 | 3667.8164 | 1.78280 | 3677.9171 | 1.78340 | 3688.0317 |
| 13/16 | 1.78224 | 3668.4473 | 1.78284 | 3678.5489 | 1.78343 | 3688.6643 |
| 7/8 | 1.78228 | 3669.0782 | 1.78288 | 3679.1807 | 1.78347 | 3689.2970 |
| 15/16 | 1.78232 | 3669.7092 | 1.78291 | 3679.8125 | 1.78351 | 3689.9297 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.78355 | 3690.5625 | 1.78414 | 3700.6944 | 1.78474 | 3710.8403 |
| 1/16 | 1.78358 | 3691.1953 | 1.78418 | 3701.3282 | 1.78477 | 3711.4749 |
| 1/8 | 1.78362 | 3691.8282 | 1.78422 | 3701.9619 | 1.78481 | 3712.1095 |
| 3/16 | 1.78366 | 3692.4612 | 1.78425 | 3702.5957 | 1.78485 | 3712.7442 |
| 1/4 | 1.78370 | 3693.0942 | 1.78429 | 3703.2296 | 1.78488 | 3713.3789 |
| 5/16 | 1.78373 | 3693.7272 | 1.78433 | 3703.8635 | 1.78492 | 3714.0137 |
| 3/8 | 1.78377 | 3694.3604 | 1.78436 | 3704.4975 | 1.78496 | 3714.6485 |
| 7/16 | 1.78381 | 3694.9935 | 1.78440 | 3705.1315 | 1.78500 | 3715.2834 |
| 1/2 | 1.78384 | 3695.6267 | 1.78444 | 3705.7656 | 1.78503 | 3715.9184 |
| 9/16 | 1.78388 | 3696.2600 | 1.78448 | 3706.3998 | 1.78507 | 3716.5534 |
| 5/8 | 1.78392 | 3696.8933 | 1.78451 | 3707.0340 | 1.78511 | 3717.1885 |
| 11/16 | 1.78396 | 3697.5267 | 1.78455 | 3707.6682 | 1.78514 | 3717.8236 |
| 3/4 | 1.78399 | 3698.1602 | 1.78459 | 3708.3025 | 1.78518 | 3718.4588 |
| 13/16 | 1.78403 | 3698.7936 | 1.78462 | 3708.9369 | 1.78522 | 3719.0940 |
| 7/8 | 1.78407 | 3699.4272 | 1.78466 | 3709.5713 | 1.78526 | 3719.7293 |
| 15/16 | 1.78410 | 3700.0608 | 1.78470 | 3710.2058 | 1.78529 | 3720.3646 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.78533 | 3721.0000 | 1.78592 | 3731.1736 | 1.78651 | 3741.3611 |
| 1/16 | 1.78537 | 3721.6354 | 1.78596 | 3731.8099 | 1.78655 | 3741.9983 |
| 1/8 | 1.78540 | 3722.2709 | 1.78600 | 3732.4463 | 1.78659 | 3742.6355 |
| 3/16 | 1.78544 | 3722.9065 | 1.78603 | 3733.0827 | 1.78663 | 3743.2728 |
| 1/4 | 1.78548 | 3723.5421 | 1.78607 | 3733.7192 | 1.78666 | 3743.9102 |
| 5/16 | 1.78552 | 3724.1778 | 1.78611 | 3734.3557 | 1.78670 | 3744.5476 |
| 3/8 | 1.78555 | 3724.8135 | 1.78614 | 3734.9923 | 1.78674 | 3745.1850 |
| 7/16 | 1.78559 | 3725.4492 | 1.78618 | 3735.6289 | 1.78677 | 3745.8225 |
| 1/2 | 1.78563 | 3726.0851 | 1.78622 | 3736.2656 | 1.78681 | 3746.4601 |
| 9/16 | 1.78566 | 3726.7209 | 1.78626 | 3736.9024 | 1.78685 | 3747.0977 |
| 5/8 | 1.78570 | 3727.3569 | 1.78629 | 3737.5392 | 1.78688 | 3747.7354 |
| 11/16 | 1.78574 | 3727.9929 | 1.78633 | 3738.1760 | 1.78692 | 3748.3731 |
| 3/4 | 1.78577 | 3728.6289 | 1.78637 | 3738.8129 | 1.78696 | 3749.0109 |
| 13/16 | 1.78581 | 3729.2650 | 1.78640 | 3739.4499 | 1.78700 | 3749.6487 |
| 7/8 | 1.78585 | 3729.9012 | 1.78644 | 3740.0869 | 1.78703 | 3750.2866 |
| 15/16 | 1.78589 | 3730.5374 | 1.78648 | 3740.7240 | 1.78707 | 3750.9245 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.78711 | 3751.5625 | 1.78770 | 3761.7778 | 1.78829 | 3772.0069 |
| 1/16 | 1.78714 | 3752.2005 | 1.78773 | 3762.4167 | 1.78832 | 3772.6467 |
| 1/8 | 1.78718 | 3752.8387 | 1.78777 | 3763.0557 | 1.78836 | 3773.2866 |
| 3/16 | 1.78722 | 3753.4768 | 1.78781 | 3763.6947 | 1.78840 | 3773.9265 |
| 1/4 | 1.78725 | 3754.1150 | 1.78784 | 3764.3338 | 1.78843 | 3774.5664 |
| 5/16 | 1.78729 | 3754.7533 | 1.78788 | 3764.9729 | 1.78847 | 3775.2064 |
| 3/8 | 1.78733 | 3755.3916 | 1.78792 | 3765.6121 | 1.78851 | 3775.8465 |
| 7/16 | 1.78736 | 3756.0300 | 1.78795 | 3766.2513 | 1.78854 | 3776.4866 |
| 1/2 | 1.78740 | 3756.6684 | 1.78799 | 3766.8906 | 1.78858 | 3777.1267 |
| 9/16 | 1.78744 | 3757.3069 | 1.78803 | 3767.5300 | 1.78862 | 3777.7670 |
| 5/8 | 1.78748 | 3757.9454 | 1.78807 | 3768.1694 | 1.78865 | 3778.4072 |
| 11/16 | 1.78751 | 3758.5840 | 1.78810 | 3768.8088 | 1.78869 | 3779.0476 |
| 3/4 | 1.78755 | 3759.2227 | 1.78814 | 3769.4484 | 1.78873 | 3779.6879 |
| 13/16 | 1.78759 | 3759.8614 | 1.78818 | 3770.0879 | 1.78876 | 3780.3284 |
| 7/8 | 1.78762 | 3760.5001 | 1.78821 | 3770.7275 | 1.78880 | 3780.9689 |
| 15/16 | 1.78766 | 3761.1389 | 1.78825 | 3771.3672 | 1.78884 | 3781.6094 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.78888 | 3782.2500 | 1.78946 | 3792.5069 | 1.79005 | 3802.7778 |
| 1/16 | 1.78891 | 3782.8907 | 1.78950 | 3793.1485 | 1.79009 | 3803.4202 |
| 1/8 | 1.78895 | 3783.5314 | 1.78954 | 3793.7900 | 1.79012 | 3804.0626 |
| 3/16 | 1.78899 | 3784.1721 | 1.78957 | 3794.4317 | 1.79016 | 3804.7051 |
| 1/4 | 1.78902 | 3784.8129 | 1.78961 | 3795.0734 | 1.79020 | 3805.3477 |
| 5/16 | 1.78906 | 3785.4538 | 1.78965 | 3795.7151 | 1.79023 | 3805.9903 |
| 3/8 | 1.78910 | 3786.0947 | 1.78968 | 3796.3569 | 1.79027 | 3806.6329 |
| 7/16 | 1.78913 | 3786.7357 | 1.78972 | 3796.9987 | 1.79031 | 3807.2756 |
| 1/2 | 1.78917 | 3787.3767 | 1.78976 | 3797.6406 | 1.79034 | 3807.9184 |
| 9/16 | 1.78921 | 3788.0178 | 1.78979 | 3798.2826 | 1.79038 | 3808.5612 |
| 5/8 | 1.78924 | 3788.6590 | 1.78983 | 3798.9246 | 1.79042 | 3809.2041 |
| 11/16 | 1.78928 | 3789.3002 | 1.78987 | 3799.5667 | 1.79045 | 3809.8470 |
| 3/4 | 1.78932 | 3789.9414 | 1.78990 | 3800.2088 | 1.79049 | 3810.4900 |
| 13/16 | 1.78935 | 3790.5827 | 1.78994 | 3800.8509 | 1.79053 | 3811.1331 |
| 7/8 | 1.78939 | 3791.2241 | 1.78998 | 3801.4932 | 1.79056 | 3811.7762 |
| 15/16 | 1.78943 | 3791.8655 | 1.79001 | 3802.1354 | 1.79060 | 3812.4193 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.79064 | 3813.0625 | 1.79122 | 3823.3611 | 1.79181 | 3833.6736 |
| 1/16 | 1.79067 | 3813.7058 | 1.79126 | 3824.0052 | 1.79184 | 3834.3186 |
| 1/8 | 1.79071 | 3814.3491 | 1.79130 | 3824.6494 | 1.79188 | 3834.9637 |
| 3/16 | 1.79075 | 3814.9924 | 1.79133 | 3825.2936 | 1.79192 | 3835.6088 |
| 1/4 | 1.79078 | 3815.6359 | 1.79137 | 3825.9379 | 1.79195 | 3836.2539 |
| 5/16 | 1.79082 | 3816.2793 | 1.79141 | 3826.5823 | 1.79199 | 3836.8991 |
| 3/8 | 1.79086 | 3816.9229 | 1.79144 | 3827.2267 | 1.79203 | 3837.5444 |
| 7/16 | 1.79089 | 3817.5664 | 1.79148 | 3827.8711 | 1.79206 | 3838.1897 |
| 1/2 | 1.79093 | 3818.2101 | 1.79152 | 3828.5156 | 1.79210 | 3838.8351 |
| 9/16 | 1.79097 | 3818.8538 | 1.79155 | 3829.1602 | 1.79214 | 3839.4805 |
| 5/8 | 1.79100 | 3819.4975 | 1.79159 | 3829.8048 | 1.79217 | 3840.1260 |
| 11/16 | 1.79104 | 3820.1413 | 1.79162 | 3830.4495 | 1.79221 | 3840.7715 |
| 3/4 | 1.79108 | 3820.7852 | 1.79166 | 3831.0942 | 1.79225 | 3841.4171 |
| 13/16 | 1.79111 | 3821.4291 | 1.79170 | 3831.7390 | 1.79228 | 3842.0627 |
| 7/8 | 1.79115 | 3822.0730 | 1.79173 | 3832.3838 | 1.79232 | 3842.7084 |
| 15/16 | 1.79119 | 3822.7170 | 1.79177 | 3833.0287 | 1.79236 | 3843.3542 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.79239 | 3844.0000 | 1.79298 | 3854.3403 | 1.79356 | 3864.6944 |
| 1/16 | 1.79243 | 3844.6459 | 1.79301 | 3854.9870 | 1.79359 | 3865.3420 |
| 1/8 | 1.79246 | 3845.2918 | 1.79305 | 3855.6338 | 1.79363 | 3865.9897 |
| 3/16 | 1.79250 | 3845.9377 | 1.79308 | 3856.2806 | 1.79367 | 3866.6374 |
| 1/4 | 1.79254 | 3846.5838 | 1.79312 | 3856.9275 | 1.79370 | 3867.2852 |
| 5/16 | 1.79257 | 3847.2298 | 1.79316 | 3857.5745 | 1.79374 | 3867.9330 |
| 3/8 | 1.79261 | 3847.8760 | 1.79319 | 3858.2215 | 1.79378 | 3868.5808 |
| 7/16 | 1.79265 | 3848.5222 | 1.79323 | 3858.8685 | 1.79381 | 3869.2288 |
| 1/2 | 1.79268 | 3849.1684 | 1.79327 | 3859.5156 | 1.79385 | 3869.8767 |
| 9/16 | 1.79272 | 3849.8147 | 1.79330 | 3860.1628 | 1.79388 | 3870.5248 |
| 5/8 | 1.79276 | 3850.4610 | 1.79334 | 3860.8100 | 1.79392 | 3871.1729 |
| 11/16 | 1.79279 | 3851.1074 | 1.79338 | 3861.4573 | 1.79396 | 3871.8210 |
| 3/4 | 1.79283 | 3851.7539 | 1.79341 | 3862.1046 | 1.79399 | 3872.4692 |
| 13/16 | 1.79287 | 3852.4004 | 1.79345 | 3862.7520 | 1.79403 | 3873.1174 |
| 7/8 | 1.79290 | 3853.0470 | 1.79348 | 3863.3994 | 1.79407 | 3873.7657 |
| 15/16 | 1.79294 | 3853.6936 | 1.79352 | 3864.0469 | 1.79410 | 3874.4141 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.79414 | 3875.0625 | 1.79472 | 3885.4444 | 1.79530 | 3895.8403 |
| 1/16 | 1.79418 | 3875.7110 | 1.79476 | 3886.0938 | 1.79534 | 3896.4905 |
| 1/8 | 1.79421 | 3876.3595 | 1.79479 | 3886.7432 | 1.79537 | 3897.1407 |
| 3/16 | 1.79425 | 3877.0081 | 1.79483 | 3887.3926 | 1.79541 | 3897.7910 |
| 1/4 | 1.79428 | 3877.6567 | 1.79487 | 3888.0421 | 1.79545 | 3898.4414 |
| 5/16 | 1.79432 | 3878.3054 | 1.79490 | 3888.6917 | 1.79548 | 3899.0918 |
| 3/8 | 1.79436 | 3878.9541 | 1.79494 | 3889.3413 | 1.79552 | 3899.7423 |
| 7/16 | 1.79439 | 3879.6029 | 1.79497 | 3889.9909 | 1.79555 | 3900.3928 |
| 1/2 | 1.79443 | 3880.2517 | 1.79501 | 3890.6406 | 1.79559 | 3901.0434 |
| 9/16 | 1.79447 | 3880.9006 | 1.79505 | 3891.2904 | 1.79563 | 3901.6940 |
| 5/8 | 1.79450 | 3881.5496 | 1.79508 | 3891.9402 | 1.79566 | 3902.3447 |
| 11/16 | 1.79454 | 3882.1986 | 1.79512 | 3892.5901 | 1.79570 | 3902.9955 |
| 3/4 | 1.79458 | 3882.8477 | 1.79516 | 3893.2400 | 1.79574 | 3903.6463 |
| 13/16 | 1.79461 | 3883.4968 | 1.79519 | 3893.8900 | 1.79577 | 3904.2971 |
| 7/8 | 1.79465 | 3884.1459 | 1.79523 | 3894.5400 | 1.79581 | 3904.9480 |
| 15/16 | 1.79468 | 3884.7952 | 1.79526 | 3895.1901 | 1.79584 | 3905.5990 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.79588 | 3906.2500 | 1.79646 | 3916.6736 | 1.79704 | 3927.1111 |
| 1/16 | 1.79592 | 3906.9011 | 1.79649 | 3917.3255 | 1.79707 | 3927.7639 |
| 1/8 | 1.79595 | 3907.5522 | 1.79653 | 3917.9775 | 1.79711 | 3928.4168 |
| 3/16 | 1.79599 | 3908.2034 | 1.79657 | 3918.6296 | 1.79714 | 3929.0697 |
| 1/4 | 1.79602 | 3908.8546 | 1.79660 | 3919.2817 | 1.79718 | 3929.7227 |
| 5/16 | 1.79606 | 3909.5059 | 1.79664 | 3919.9338 | 1.79722 | 3930.3757 |
| 3/8 | 1.79610 | 3910.1572 | 1.79668 | 3920.5860 | 1.79725 | 3931.0288 |
| 7/16 | 1.79613 | 3910.8086 | 1.79671 | 3921.2383 | 1.79729 | 3931.6819 |
| 1/2 | 1.79617 | 3911.4601 | 1.79675 | 3921.8906 | 1.79733 | 3932.3351 |
| 9/16 | 1.79621 | 3912.1116 | 1.79678 | 3922.5430 | 1.79736 | 3932.9883 |
| 5/8 | 1.79624 | 3912.7631 | 1.79682 | 3923.1954 | 1.79740 | 3933.6416 |
| 11/16 | 1.79628 | 3913.4147 | 1.79686 | 3923.8479 | 1.79743 | 3934.2949 |
| 3/4 | 1.79631 | 3914.0664 | 1.79689 | 3924.5004 | 1.79747 | 3934.9484 |
| 13/16 | 1.79635 | 3914.7181 | 1.79693 | 3925.1530 | 1.79751 | 3935.6018 |
| 7/8 | 1.79639 | 3915.3699 | 1.79696 | 3925.8057 | 1.79754 | 3936.2553 |
| 15/16 | 1.79642 | 3916.0217 | 1.79700 | 3926.4584 | 1.79758 | 3936.9089 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.79761 | 3937.5625 | 1.79819 | 3948.0278 | 1.79877 | 3958.5069 |
| 1/16 | 1.79765 | 3938.2162 | 1.79823 | 3948.6823 | 1.79880 | 3959.1624 |
| 1/8 | 1.79769 | 3938.8699 | 1.79826 | 3949.3369 | 1.79884 | 3959.8178 |
| 3/16 | 1.79772 | 3939.5237 | 1.79830 | 3949.9916 | 1.79887 | 3960.4733 |
| 1/4 | 1.79776 | 3940.1775 | 1.79833 | 3950.6463 | 1.79891 | 3961.1289 |
| 5/16 | 1.79779 | 3940.8314 | 1.79837 | 3951.3010 | 1.79895 | 3961.7845 |
| 3/8 | 1.79783 | 3941.4854 | 1.79841 | 3951.9558 | 1.79898 | 3962.4402 |
| 7/16 | 1.79787 | 3942.1394 | 1.79844 | 3952.6107 | 1.79902 | 3963.0959 |
| 1/2 | 1.79790 | 3942.7934 | 1.79848 | 3953.2656 | 1.79905 | 3963.7517 |
| 9/16 | 1.79794 | 3943.4475 | 1.79851 | 3953.9206 | 1.79909 | 3964.4076 |
| 5/8 | 1.79797 | 3944.1017 | 1.79855 | 3954.5756 | 1.79913 | 3965.0635 |
| 11/16 | 1.79801 | 3944.7559 | 1.79859 | 3955.2307 | 1.79916 | 3965.7194 |
| 3/4 | 1.79805 | 3945.4102 | 1.79862 | 3955.8859 | 1.79920 | 3966.3754 |
| 13/16 | 1.79808 | 3946.0645 | 1.79866 | 3956.5410 | 1.79923 | 3967.0315 |
| 7/8 | 1.79812 | 3946.7189 | 1.79869 | 3957.1963 | 1.79927 | 3967.6876 |
| 15/16 | 1.79815 | 3947.3733 | 1.79873 | 3957.8516 | 1.79930 | 3968.3438 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.79934 | 3969.0000 | 1.79991 | 3979.5069 | 1.80049 | 3990.0278 |
| 1/16 | 1.79938 | 3969.6563 | 1.79995 | 3980.1641 | 1.80052 | 3990.6858 |
| 1/8 | 1.79941 | 3970.3126 | 1.79999 | 3980.8213 | 1.80056 | 3991.3439 |
| 3/16 | 1.79945 | 3970.9690 | 1.80002 | 3981.4785 | 1.80060 | 3992.0020 |
| 1/4 | 1.79948 | 3971.6254 | 1.80006 | 3982.1359 | 1.80063 | 3992.6602 |
| 5/16 | 1.79952 | 3972.2819 | 1.80009 | 3982.7932 | 1.80067 | 3993.3184 |
| 3/8 | 1.79956 | 3972.9385 | 1.80013 | 3983.4506 | 1.80070 | 3993.9767 |
| 7/16 | 1.79959 | 3973.5951 | 1.80017 | 3984.1081 | 1.80074 | 3994.6350 |
| 1/2 | 1.79963 | 3974.2517 | 1.80020 | 3984.7656 | 1.80077 | 3995.2934 |
| 9/16 | 1.79966 | 3974.9084 | 1.80024 | 3985.4232 | 1.80081 | 3995.9519 |
| 5/8 | 1.79970 | 3975.5652 | 1.80027 | 3986.0808 | 1.80085 | 3996.6104 |
| 11/16 | 1.79974 | 3976.2220 | 1.80031 | 3986.7385 | 1.80088 | 3997.2689 |
| 3/4 | 1.79977 | 3976.8789 | 1.80034 | 3987.3963 | 1.80092 | 3997.9275 |
| 13/16 | 1.79981 | 3977.5358 | 1.80038 | 3988.0541 | 1.80095 | 3998.5862 |
| 7/8 | 1.79984 | 3978.1928 | 1.80042 | 3988.7119 | 1.80099 | 3999.2449 |
| 15/16 | 1.79988 | 3978.8499 | 1.80045 | 3989.3698 | 1.80102 | 3999.9037 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.80106 | 4000.5625 | 1.80163 | 4011.1111 | 1.80220 | 4021.6736 |
| 1/16 | 1.80110 | 4001.2214 | 1.80167 | 4011.7709 | 1.80224 | 4022.3342 |
| 1/8 | 1.80113 | 4001.8803 | 1.80170 | 4012.4307 | 1.80227 | 4022.9949 |
| 3/16 | 1.80117 | 4002.5393 | 1.80174 | 4013.0905 | 1.80231 | 4023.6556 |
| 1/4 | 1.80120 | 4003.1984 | 1.80178 | 4013.7504 | 1.80235 | 4024.3164 |
| 5/16 | 1.80124 | 4003.8574 | 1.80181 | 4014.4104 | 1.80238 | 4024.9772 |
| 3/8 | 1.80128 | 4004.5166 | 1.80185 | 4015.0704 | 1.80242 | 4025.6381 |
| 7/16 | 1.80131 | 4005.1758 | 1.80188 | 4015.7305 | 1.80245 | 4026.2991 |
| 1/2 | 1.80135 | 4005.8351 | 1.80192 | 4016.3906 | 1.80249 | 4026.9601 |
| 9/16 | 1.80138 | 4006.4944 | 1.80195 | 4017.0508 | 1.80252 | 4027.6211 |
| 5/8 | 1.80142 | 4007.1538 | 1.80199 | 4017.7110 | 1.80256 | 4028.2822 |
| 11/16 | 1.80145 | 4007.8132 | 1.80203 | 4018.3713 | 1.80260 | 4028.9434 |
| 3/4 | 1.80149 | 4008.4727 | 1.80206 | 4019.0317 | 1.80263 | 4029.6046 |
| 13/16 | 1.80153 | 4009.1322 | 1.80210 | 4019.6921 | 1.80267 | 4030.2659 |
| 7/8 | 1.80156 | 4009.7918 | 1.80213 | 4020.3525 | 1.80270 | 4030.9272 |
| 15/16 | 1.80160 | 4010.4514 | 1.80217 | 4021.0130 | 1.80274 | 4031.5886 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.80277 | 4032.2500 | 1.80334 | 4042.8403 | 1.80391 | 4053.4444 |
| 1/16 | 1.80281 | 4032.9115 | 1.80338 | 4043.5026 | 1.80395 | 4054.1077 |
| 1/8 | 1.80284 | 4033.5730 | 1.80341 | 4044.1650 | 1.80398 | 4054.7709 |
| 3/16 | 1.80288 | 4034.2346 | 1.80345 | 4044.8275 | 1.80402 | 4055.4343 |
| 1/4 | 1.80292 | 4034.8963 | 1.80349 | 4045.4900 | 1.80405 | 4056.0977 |
| 5/16 | 1.80295 | 4035.5580 | 1.80352 | 4046.1526 | 1.80409 | 4056.7611 |
| 3/8 | 1.80299 | 4036.2197 | 1.80356 | 4046.8152 | 1.80413 | 4057.4246 |
| 7/16 | 1.80302 | 4036.8815 | 1.80359 | 4047.4779 | 1.80416 | 4058.0881 |
| 1/2 | 1.80306 | 4037.5434 | 1.80363 | 4048.1406 | 1.80420 | 4058.7517 |
| 9/16 | 1.80309 | 4038.2053 | 1.80366 | 4048.8034 | 1.80423 | 4059.4154 |
| 5/8 | 1.80313 | 4038.8673 | 1.80370 | 4049.4663 | 1.80427 | 4060.0791 |
| 11/16 | 1.80317 | 4039.5293 | 1.80373 | 4050.1292 | 1.80430 | 4060.7429 |
| 3/4 | 1.80320 | 4040.1914 | 1.80377 | 4050.7921 | 1.80434 | 4061.4067 |
| 13/16 | 1.80324 | 4040.8535 | 1.80381 | 4051.4551 | 1.80437 | 4062.0706 |
| 7/8 | 1.80327 | 4041.5157 | 1.80384 | 4052.1182 | 1.80441 | 4062.7345 |
| 15/16 | 1.80331 | 4042.1780 | 1.80388 | 4052.7813 | 1.80444 | 4063.3985 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.80448 | 4064.0625 | 1.80505 | 4074.6944 | 1.80561 | 4085.3403 |
| 1/16 | 1.80452 | 4064.7266 | 1.80508 | 4075.3594 | 1.80565 | 4086.0061 |
| 1/8 | 1.80455 | 4065.3907 | 1.80512 | 4076.0244 | 1.80568 | 4086.6720 |
| 3/16 | 1.80459 | 4066.0549 | 1.80515 | 4076.6895 | 1.80572 | 4087.3379 |
| 1/4 | 1.80462 | 4066.7192 | 1.80519 | 4077.3546 | 1.80576 | 4088.0039 |
| 5/16 | 1.80466 | 4067.3835 | 1.80522 | 4078.0198 | 1.80579 | 4088.6699 |
| 3/8 | 1.80469 | 4068.0479 | 1.80526 | 4078.6850 | 1.80583 | 4089.3360 |
| 7/16 | 1.80473 | 4068.7123 | 1.80530 | 4079.3503 | 1.80586 | 4090.0022 |
| 1/2 | 1.80476 | 4069.3767 | 1.80533 | 4080.0156 | 1.80590 | 4090.6684 |
| 9/16 | 1.80480 | 4070.0413 | 1.80537 | 4080.6810 | 1.80593 | 4091.3347 |
| 5/8 | 1.80483 | 4070.7058 | 1.80540 | 4081.3465 | 1.80597 | 4092.0010 |
| 11/16 | 1.80487 | 4071.3705 | 1.80544 | 4082.0120 | 1.80600 | 4092.6673 |
| 3/4 | 1.80491 | 4072.0352 | 1.80547 | 4082.6775 | 1.80604 | 4093.3338 |
| 13/16 | 1.80494 | 4072.6999 | 1.80551 | 4083.3431 | 1.80607 | 4094.0002 |
| 7/8 | 1.80498 | 4073.3647 | 1.80554 | 4084.0088 | 1.80611 | 4094.6668 |
| 15/16 | 1.80501 | 4074.0295 | 1.80558 | 4084.6745 | 1.80614 | 4095.3334 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.80618 | 4096.0000 | 1.80675 | 4106.6736 | 1.80731 | 4117.3611 |
| 1/16 | 1.80622 | 4096.6667 | 1.80678 | 4107.3412 | 1.80734 | 4118.0295 |
| 1/8 | 1.80625 | 4097.3334 | 1.80682 | 4108.0088 | 1.80738 | 4118.6980 |
| 3/16 | 1.80629 | 4098.0002 | 1.80685 | 4108.6765 | 1.80742 | 4119.3666 |
| 1/4 | 1.80632 | 4098.6671 | 1.80689 | 4109.3442 | 1.80745 | 4120.0352 |
| 5/16 | 1.80636 | 4099.3340 | 1.80692 | 4110.0120 | 1.80749 | 4120.7038 |
| 3/8 | 1.80639 | 4100.0010 | 1.80696 | 4110.6798 | 1.80752 | 4121.3725 |
| 7/16 | 1.80643 | 4100.6680 | 1.80699 | 4111.3477 | 1.80756 | 4122.0413 |
| 1/2 | 1.80646 | 4101.3351 | 1.80703 | 4112.0156 | 1.80759 | 4122.7101 |
| 9/16 | 1.80650 | 4102.0022 | 1.80706 | 4112.6836 | 1.80763 | 4123.3789 |
| 5/8 | 1.80653 | 4102.6694 | 1.80710 | 4113.3517 | 1.80766 | 4124.0479 |
| 11/16 | 1.80657 | 4103.3366 | 1.80713 | 4114.0198 | 1.80770 | 4124.7168 |
| 3/4 | 1.80660 | 4104.0039 | 1.80717 | 4114.6879 | 1.80773 | 4125.3859 |
| 13/16 | 1.80664 | 4104.6713 | 1.80720 | 4115.3561 | 1.80777 | 4126.0549 |
| 7/8 | 1.80667 | 4105.3387 | 1.80724 | 4116.0244 | 1.80780 | 4126.7241 |
| 15/16 | 1.80671 | 4106.0061 | 1.80727 | 4116.6927 | 1.80784 | 4127.3933 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.80787 | 4128.0625 | 1.80844 | 4138.7778 | 1.80900 | 4149.5069 |
| 1/16 | 1.80791 | 4128.7318 | 1.80847 | 4139.4479 | 1.80903 | 4150.1780 |
| 1/8 | 1.80794 | 4129.4012 | 1.80851 | 4140.1182 | 1.80907 | 4150.8491 |
| 3/16 | 1.80798 | 4130.0706 | 1.80854 | 4140.7884 | 1.80910 | 4151.5202 |
| 1/4 | 1.80801 | 4130.7400 | 1.80858 | 4141.4588 | 1.80914 | 4152.1914 |
| 5/16 | 1.80805 | 4131.4095 | 1.80861 | 4142.1292 | 1.80917 | 4152.8627 |
| 3/8 | 1.80808 | 4132.0791 | 1.80865 | 4142.7996 | 1.80921 | 4153.5340 |
| 7/16 | 1.80812 | 4132.7487 | 1.80868 | 4143.4701 | 1.80924 | 4154.2053 |
| 1/2 | 1.80815 | 4133.4184 | 1.80872 | 4144.1406 | 1.80928 | 4154.8767 |
| 9/16 | 1.80819 | 4134.0881 | 1.80875 | 4144.8112 | 1.80931 | 4155.5482 |
| 5/8 | 1.80823 | 4134.7579 | 1.80879 | 4145.4819 | 1.80935 | 4156.2197 |
| 11/16 | 1.80826 | 4135.4278 | 1.80882 | 4146.1526 | 1.80938 | 4156.8913 |
| 3/4 | 1.80830 | 4136.0977 | 1.80886 | 4146.8234 | 1.80942 | 4157.5629 |
| 13/16 | 1.80833 | 4136.7676 | 1.80889 | 4147.4942 | 1.80945 | 4158.2346 |
| 7/8 | 1.80837 | 4137.4376 | 1.80893 | 4148.1650 | 1.80949 | 4158.9064 |
| 15/16 | 1.80840 | 4138.1077 | 1.80896 | 4148.8360 | 1.80952 | 4159.5782 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.80956 | 4160.2500 | 1.81012 | 4171.0069 | 1.81068 | 4181.7778 |
| 1/16 | 1.80959 | 4160.9219 | 1.81016 | 4171.6797 | 1.81072 | 4182.4514 |
| 1/8 | 1.80963 | 4161.5939 | 1.81019 | 4172.3525 | 1.81075 | 4183.1251 |
| 3/16 | 1.80966 | 4162.2659 | 1.81023 | 4173.0254 | 1.81079 | 4183.7989 |
| 1/4 | 1.80970 | 4162.9379 | 1.81026 | 4173.6984 | 1.81082 | 4184.4727 |
| 5/16 | 1.80974 | 4163.6101 | 1.81030 | 4174.3713 | 1.81086 | 4185.1465 |
| 3/8 | 1.80977 | 4164.2822 | 1.81033 | 4175.0444 | 1.81089 | 4185.8204 |
| 7/16 | 1.80981 | 4164.9545 | 1.81037 | 4175.7175 | 1.81093 | 4186.4944 |
| 1/2 | 1.80984 | 4165.6267 | 1.81040 | 4176.3906 | 1.81096 | 4187.1684 |
| 9/16 | 1.80988 | 4166.2991 | 1.81044 | 4177.0638 | 1.81100 | 4187.8425 |
| 5/8 | 1.80991 | 4166.9715 | 1.81047 | 4177.7371 | 1.81103 | 4188.5166 |
| 11/16 | 1.80995 | 4167.6439 | 1.81051 | 4178.4104 | 1.81107 | 4189.1908 |
| 3/4 | 1.80998 | 4168.3164 | 1.81054 | 4179.0838 | 1.81110 | 4189.8650 |
| 13/16 | 1.81002 | 4168.9890 | 1.81058 | 4179.7572 | 1.81113 | 4190.5393 |
| 7/8 | 1.81005 | 4169.6616 | 1.81061 | 4180.4307 | 1.81117 | 4191.2137 |
| 15/16 | 1.81009 | 4170.3342 | 1.81065 | 4181.1042 | 1.81120 | 4191.8880 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.81124 | 4192.5625 | 1.81180 | 4203.3611 | 1.81236 | 4214.1736 |
| 1/16 | 1.81127 | 4193.2370 | 1.81183 | 4204.0365 | 1.81239 | 4214.8499 |
| 1/8 | 1.81131 | 4193.9116 | 1.81187 | 4204.7119 | 1.81243 | 4215.5262 |
| 3/16 | 1.81134 | 4194.5862 | 1.81190 | 4205.3874 | 1.81246 | 4216.2025 |
| 1/4 | 1.81138 | 4195.2609 | 1.81194 | 4206.0629 | 1.81250 | 4216.8789 |
| 5/16 | 1.81141 | 4195.9356 | 1.81197 | 4206.7385 | 1.81253 | 4217.5554 |
| 3/8 | 1.81145 | 4196.6104 | 1.81201 | 4207.4142 | 1.81257 | 4218.2319 |
| 7/16 | 1.81148 | 4197.2852 | 1.81204 | 4208.0899 | 1.81260 | 4218.9084 |
| 1/2 | 1.81152 | 4197.9601 | 1.81208 | 4208.7656 | 1.81263 | 4219.5851 |
| 9/16 | 1.81155 | 4198.6350 | 1.81211 | 4209.4414 | 1.81267 | 4220.2617 |
| 5/8 | 1.81159 | 4199.3100 | 1.81215 | 4210.1173 | 1.81270 | 4220.9385 |
| 11/16 | 1.81162 | 4199.9851 | 1.81218 | 4210.7932 | 1.81274 | 4221.6153 |
| 3/4 | 1.81166 | 4200.6602 | 1.81222 | 4211.4692 | 1.81277 | 4222.2921 |
| 13/16 | 1.81169 | 4201.3353 | 1.81225 | 4212.1452 | 1.81281 | 4222.9690 |
| 7/8 | 1.81173 | 4202.0105 | 1.81229 | 4212.8213 | 1.81284 | 4223.6459 |
| 15/16 | 1.81176 | 4202.6858 | 1.81232 | 4213.4974 | 1.81288 | 4224.3229 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.81291 | 4225.0000 | 1.81347 | 4235.8403 | 1.81403 | 4246.6944 |
| 1/16 | 1.81295 | 4225.6771 | 1.81350 | 4236.5183 | 1.81406 | 4247.3733 |
| 1/8 | 1.81298 | 4226.3543 | 1.81354 | 4237.1963 | 1.81409 | 4248.0522 |
| 3/16 | 1.81302 | 4227.0315 | 1.81357 | 4237.8744 | 1.81413 | 4248.7311 |
| 1/4 | 1.81305 | 4227.7088 | 1.81361 | 4238.5525 | 1.81416 | 4249.4102 |
| 5/16 | 1.81309 | 4228.3861 | 1.81364 | 4239.2307 | 1.81420 | 4250.0892 |
| 3/8 | 1.81312 | 4229.0635 | 1.81368 | 4239.9090 | 1.81423 | 4250.7683 |
| 7/16 | 1.81316 | 4229.7409 | 1.81371 | 4240.5873 | 1.81427 | 4251.4475 |
| 1/2 | 1.81319 | 4230.4184 | 1.81375 | 4241.2656 | 1.81430 | 4252.1267 |
| 9/16 | 1.81323 | 4231.0959 | 1.81378 | 4241.9440 | 1.81434 | 4252.8060 |
| 5/8 | 1.81326 | 4231.7735 | 1.81382 | 4242.6225 | 1.81437 | 4253.4854 |
| 11/16 | 1.81330 | 4232.4512 | 1.81385 | 4243.3010 | 1.81441 | 4254.1647 |
| 3/4 | 1.81333 | 4233.1289 | 1.81389 | 4243.9796 | 1.81444 | 4254.8442 |
| 13/16 | 1.81337 | 4233.8067 | 1.81392 | 4244.6582 | 1.81448 | 4255.5237 |
| 7/8 | 1.81340 | 4234.4845 | 1.81396 | 4245.3369 | 1.81451 | 4256.2032 |
| 15/16 | 1.81344 | 4235.1624 | 1.81399 | 4246.0157 | 1.81455 | 4256.8828 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.81458 | 4257.5625 | 1.81513 | 4268.4444 | 1.81569 | 4279.3403 |
| 1/16 | 1.81462 | 4258.2422 | 1.81517 | 4269.1250 | 1.81572 | 4280.0217 |
| 1/8 | 1.81465 | 4258.9220 | 1.81520 | 4269.8057 | 1.81576 | 4280.7032 |
| 3/16 | 1.81468 | 4259.6018 | 1.81524 | 4270.4864 | 1.81579 | 4281.3848 |
| 1/4 | 1.81472 | 4260.2817 | 1.81527 | 4271.1671 | 1.81583 | 4282.0664 |
| 5/16 | 1.81475 | 4260.9616 | 1.81531 | 4271.8479 | 1.81586 | 4282.7481 |
| 3/8 | 1.81479 | 4261.6416 | 1.81534 | 4272.5288 | 1.81590 | 4283.4298 |
| 7/16 | 1.81482 | 4262.3216 | 1.81538 | 4273.2097 | 1.81593 | 4284.1116 |
| 1/2 | 1.81486 | 4263.0017 | 1.81541 | 4273.8906 | 1.81596 | 4284.7934 |
| 9/16 | 1.81489 | 4263.6819 | 1.81545 | 4274.5716 | 1.81600 | 4285.4753 |
| 5/8 | 1.81493 | 4264.3621 | 1.81548 | 4275.2527 | 1.81603 | 4286.1572 |
| 11/16 | 1.81496 | 4265.0423 | 1.81552 | 4275.9338 | 1.81607 | 4286.8392 |
| 3/4 | 1.81500 | 4265.7227 | 1.81555 | 4276.6150 | 1.81610 | 4287.5213 |
| 13/16 | 1.81503 | 4266.4030 | 1.81558 | 4277.2963 | 1.81614 | 4288.2034 |
| 7/8 | 1.81507 | 4267.0834 | 1.81562 | 4277.9775 | 1.81617 | 4288.8855 |
| 15/16 | 1.81510 | 4267.7639 | 1.81565 | 4278.6589 | 1.81621 | 4289.5677 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.81624 | 4290.2500 | 1.81679 | 4301.1736 | 1.81734 | 4312.1111 |
| 1/16 | 1.81628 | 4290.9323 | 1.81683 | 4301.8568 | 1.81738 | 4312.7952 |
| 1/8 | 1.81631 | 4291.6147 | 1.81686 | 4302.5400 | 1.81741 | 4313.4793 |
| 3/16 | 1.81634 | 4292.2971 | 1.81690 | 4303.2233 | 1.81745 | 4314.1634 |
| 1/4 | 1.81638 | 4292.9796 | 1.81693 | 4303.9067 | 1.81748 | 4314.8477 |
| 5/16 | 1.81641 | 4293.6621 | 1.81697 | 4304.5901 | 1.81752 | 4315.5319 |
| 3/8 | 1.81645 | 4294.3447 | 1.81700 | 4305.2735 | 1.81755 | 4316.2163 |
| 7/16 | 1.81648 | 4295.0274 | 1.81703 | 4305.9571 | 1.81759 | 4316.9006 |
| 1/2 | 1.81652 | 4295.7101 | 1.81707 | 4306.6406 | 1.81762 | 4317.5851 |
| 9/16 | 1.81655 | 4296.3928 | 1.81710 | 4307.3242 | 1.81765 | 4318.2696 |
| 5/8 | 1.81659 | 4297.0756 | 1.81714 | 4308.0079 | 1.81769 | 4318.9541 |
| 11/16 | 1.81662 | 4297.7585 | 1.81717 | 4308.6917 | 1.81772 | 4319.6387 |
| 3/4 | 1.81666 | 4298.4414 | 1.81721 | 4309.3754 | 1.81776 | 4320.3234 |
| 13/16 | 1.81669 | 4299.1244 | 1.81724 | 4310.0593 | 1.81779 | 4321.0081 |
| 7/8 | 1.81672 | 4299.8074 | 1.81728 | 4310.7432 | 1.81783 | 4321.6928 |
| 15/16 | 1.81676 | 4300.4905 | 1.81731 | 4311.4271 | 1.81786 | 4322.3776 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.81790 | 4323.0625 | 1.81845 | 4334.0278 | 1.81900 | 4345.0069 |
| 1/16 | 1.81793 | 4323.7474 | 1.81848 | 4334.7136 | 1.81903 | 4345.6936 |
| 1/8 | 1.81796 | 4324.4324 | 1.81851 | 4335.3994 | 1.81906 | 4346.3803 |
| 3/16 | 1.81800 | 4325.1174 | 1.81855 | 4336.0853 | 1.81910 | 4347.0671 |
| 1/4 | 1.81803 | 4325.8025 | 1.81858 | 4336.7713 | 1.81913 | 4347.7539 |
| 5/16 | 1.81807 | 4326.4877 | 1.81862 | 4337.4573 | 1.81917 | 4348.4408 |
| 3/8 | 1.81810 | 4327.1729 | 1.81865 | 4338.1433 | 1.81920 | 4349.1277 |
| 7/16 | 1.81814 | 4327.8581 | 1.81869 | 4338.8295 | 1.81924 | 4349.8147 |
| 1/2 | 1.81817 | 4328.5434 | 1.81872 | 4339.5156 | 1.81927 | 4350.5017 |
| 9/16 | 1.81821 | 4329.2288 | 1.81875 | 4340.2019 | 1.81930 | 4351.1888 |
| 5/8 | 1.81824 | 4329.9142 | 1.81879 | 4340.8881 | 1.81934 | 4351.8760 |
| 11/16 | 1.81827 | 4330.5996 | 1.81882 | 4341.5745 | 1.81937 | 4352.5632 |
| 3/4 | 1.81831 | 4331.2852 | 1.81886 | 4342.2609 | 1.81941 | 4353.2504 |
| 13/16 | 1.81834 | 4331.9707 | 1.81889 | 4342.9473 | 1.81944 | 4353.9377 |
| 7/8 | 1.81838 | 4332.6564 | 1.81893 | 4343.6338 | 1.81948 | 4354.6251 |
| 15/16 | 1.81841 | 4333.3420 | 1.81896 | 4344.3203 | 1.81951 | 4355.3125 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.81954 | 4356.0000 | 1.82009 | 4367.0069 | 1.82064 | 4378.0278 |
| 1/16 | 1.81958 | 4356.6875 | 1.82013 | 4367.6953 | 1.82067 | 4378.7170 |
| 1/8 | 1.81961 | 4357.3751 | 1.82016 | 4368.3838 | 1.82071 | 4379.4064 |
| 3/16 | 1.81965 | 4358.0627 | 1.82019 | 4369.0723 | 1.82074 | 4380.0957 |
| 1/4 | 1.81968 | 4358.7504 | 1.82023 | 4369.7609 | 1.82078 | 4380.7852 |
| 5/16 | 1.81972 | 4359.4382 | 1.82026 | 4370.4495 | 1.82081 | 4381.4746 |
| 3/8 | 1.81975 | 4360.1260 | 1.82030 | 4371.1381 | 1.82084 | 4382.1642 |
| 7/16 | 1.81978 | 4360.8138 | 1.82033 | 4371.8269 | 1.82088 | 4382.8538 |
| 1/2 | 1.81982 | 4361.5017 | 1.82037 | 4372.5156 | 1.82091 | 4383.5434 |
| 9/16 | 1.81985 | 4362.1897 | 1.82040 | 4373.2045 | 1.82095 | 4384.2331 |
| 5/8 | 1.81989 | 4362.8777 | 1.82043 | 4373.8933 | 1.82098 | 4384.9229 |
| 11/16 | 1.81992 | 4363.5658 | 1.82047 | 4374.5823 | 1.82102 | 4385.6127 |
| 3/4 | 1.81996 | 4364.2539 | 1.82050 | 4375.2713 | 1.82105 | 4386.3025 |
| 13/16 | 1.81999 | 4364.9421 | 1.82054 | 4375.9603 | 1.82108 | 4386.9924 |
| 7/8 | 1.82002 | 4365.6303 | 1.82057 | 4376.6494 | 1.82112 | 4387.6824 |
| 15/16 | 1.82006 | 4366.3186 | 1.82061 | 4377.3386 | 1.82115 | 4388.3724 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.82119 | 4389.0625 | 1.82173 | 4400.1111 | 1.82228 | 4411.1736 |
| 1/16 | 1.82122 | 4389.7526 | 1.82177 | 4400.8021 | 1.82231 | 4411.8655 |
| 1/8 | 1.82125 | 4390.4428 | 1.82180 | 4401.4932 | 1.82235 | 4412.5574 |
| 3/16 | 1.82129 | 4391.1331 | 1.82183 | 4402.1843 | 1.82238 | 4413.2494 |
| 1/4 | 1.82132 | 4391.8234 | 1.82187 | 4402.8754 | 1.82241 | 4413.9414 |
| 5/16 | 1.82136 | 4392.5137 | 1.82190 | 4403.5667 | 1.82245 | 4414.6335 |
| 3/8 | 1.82139 | 4393.2041 | 1.82194 | 4404.2579 | 1.82248 | 4415.3256 |
| 7/16 | 1.82142 | 4393.8946 | 1.82197 | 4404.9492 | 1.82252 | 4416.0178 |
| 1/2 | 1.82146 | 4394.5851 | 1.82200 | 4405.6406 | 1.82255 | 4416.7101 |
| 9/16 | 1.82149 | 4395.2756 | 1.82204 | 4406.3321 | 1.82258 | 4417.4024 |
| 5/8 | 1.82153 | 4395.9663 | 1.82207 | 4407.0235 | 1.82262 | 4418.0947 |
| 11/16 | 1.82156 | 4396.6569 | 1.82211 | 4407.7151 | 1.82265 | 4418.7871 |
| 3/4 | 1.82160 | 4397.3477 | 1.82214 | 4408.4067 | 1.82269 | 4419.4796 |
| 13/16 | 1.82163 | 4398.0384 | 1.82217 | 4409.0983 | 1.82272 | 4420.1721 |
| 7/8 | 1.82166 | 4398.7293 | 1.82221 | 4409.7900 | 1.82275 | 4420.8647 |
| 15/16 | 1.82170 | 4399.4202 | 1.82224 | 4410.4818 | 1.82279 | 4421.5573 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.82282 | 4422.2500 | 1.82337 | 4433.3403 | 1.82391 | 4444.4444 |
| 1/16 | 1.82286 | 4422.9427 | 1.82340 | 4434.0339 | 1.82394 | 4445.1389 |
| 1/8 | 1.82289 | 4423.6355 | 1.82343 | 4434.7275 | 1.82398 | 4445.8334 |
| 3/16 | 1.82292 | 4424.3284 | 1.82347 | 4435.4213 | 1.82401 | 4446.5280 |
| 1/4 | 1.82296 | 4425.0213 | 1.82350 | 4436.1150 | 1.82404 | 4447.2227 |
| 5/16 | 1.82299 | 4425.7142 | 1.82354 | 4436.8088 | 1.82408 | 4447.9173 |
| 3/8 | 1.82303 | 4426.4072 | 1.82357 | 4437.5027 | 1.82411 | 4448.6121 |
| 7/16 | 1.82306 | 4427.1003 | 1.82360 | 4438.1966 | 1.82415 | 4449.3069 |
| 1/2 | 1.82309 | 4427.7934 | 1.82364 | 4438.8906 | 1.82418 | 4450.0017 |
| 9/16 | 1.82313 | 4428.4866 | 1.82367 | 4439.5847 | 1.82421 | 4450.6966 |
| 5/8 | 1.82316 | 4429.1798 | 1.82371 | 4440.2788 | 1.82425 | 4451.3916 |
| 11/16 | 1.82320 | 4429.8731 | 1.82374 | 4440.9729 | 1.82428 | 4452.0866 |
| 3/4 | 1.82323 | 4430.5664 | 1.82377 | 4441.6671 | 1.82432 | 4452.7817 |
| 13/16 | 1.82326 | 4431.2598 | 1.82381 | 4442.3614 | 1.82435 | 4453.4768 |
| 7/8 | 1.82330 | 4431.9532 | 1.82384 | 4443.0557 | 1.82438 | 4454.1720 |
| 15/16 | 1.82333 | 4432.6467 | 1.82387 | 4443.7500 | 1.82442 | 4454.8672 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.82445 | 4455.5625 | 1.82499 | 4466.6944 | 1.82553 | 4477.8403 |
| 1/16 | 1.82449 | 4456.2578 | 1.82503 | 4467.3907 | 1.82557 | 4478.5374 |
| 1/8 | 1.82452 | 4456.9532 | 1.82506 | 4468.0869 | 1.82560 | 4479.2345 |
| 3/16 | 1.82455 | 4457.6487 | 1.82509 | 4468.7832 | 1.82564 | 4479.9317 |
| 1/4 | 1.82459 | 4458.3442 | 1.82513 | 4469.4796 | 1.82567 | 4480.6289 |
| 5/16 | 1.82462 | 4459.0397 | 1.82516 | 4470.1760 | 1.82570 | 4481.3262 |
| 3/8 | 1.82465 | 4459.7354 | 1.82520 | 4470.8725 | 1.82574 | 4482.0235 |
| 7/16 | 1.82469 | 4460.4310 | 1.82523 | 4471.5690 | 1.82577 | 4482.7209 |
| 1/2 | 1.82472 | 4461.1267 | 1.82526 | 4472.2656 | 1.82580 | 4483.4184 |
| 9/16 | 1.82476 | 4461.8225 | 1.82530 | 4472.9623 | 1.82584 | 4484.1159 |
| 5/8 | 1.82479 | 4462.5183 | 1.82533 | 4473.6590 | 1.82587 | 4484.8135 |
| 11/16 | 1.82482 | 4463.2142 | 1.82537 | 4474.3557 | 1.82591 | 4485.5111 |
| 3/4 | 1.82486 | 4463.9102 | 1.82540 | 4475.0525 | 1.82594 | 4486.2088 |
| 13/16 | 1.82489 | 4464.6061 | 1.82543 | 4475.7494 | 1.82597 | 4486.9065 |
| 7/8 | 1.82493 | 4465.3022 | 1.82547 | 4476.4463 | 1.82601 | 4487.6043 |
| 15/16 | 1.82496 | 4465.9983 | 1.82550 | 4477.1433 | 1.82604 | 4488.3021 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.82607 | 4489.0000 | 1.82661 | 4500.1736 | 1.82715 | 4511.3611 |
| 1/16 | 1.82611 | 4489.6979 | 1.82665 | 4500.8724 | 1.82719 | 4512.0608 |
| 1/8 | 1.82614 | 4490.3959 | 1.82668 | 4501.5713 | 1.82722 | 4512.7605 |
| 3/16 | 1.82618 | 4491.0940 | 1.82672 | 4502.2702 | 1.82725 | 4513.4603 |
| 1/4 | 1.82621 | 4491.7921 | 1.82675 | 4502.9692 | 1.82729 | 4514.1602 |
| 5/16 | 1.82624 | 4492.4903 | 1.82678 | 4503.6682 | 1.82732 | 4514.8601 |
| 3/8 | 1.82628 | 4493.1885 | 1.82682 | 4504.3673 | 1.82736 | 4515.5600 |
| 7/16 | 1.82631 | 4493.8867 | 1.82685 | 4505.0664 | 1.82739 | 4516.2600 |
| 1/2 | 1.82634 | 4494.5851 | 1.82688 | 4505.7656 | 1.82742 | 4516.9601 |
| 9/16 | 1.82638 | 4495.2834 | 1.82692 | 4506.4649 | 1.82746 | 4517.6602 |
| 5/8 | 1.82641 | 4495.9819 | 1.82695 | 4507.1642 | 1.82749 | 4518.3604 |
| 11/16 | 1.82645 | 4496.6804 | 1.82699 | 4507.8635 | 1.82752 | 4519.0606 |
| 3/4 | 1.82648 | 4497.3789 | 1.82702 | 4508.5629 | 1.82756 | 4519.7609 |
| 13/16 | 1.82651 | 4498.0775 | 1.82705 | 4509.2624 | 1.82759 | 4520.4612 |
| 7/8 | 1.82655 | 4498.7762 | 1.82709 | 4509.9619 | 1.82763 | 4521.1616 |
| 15/16 | 1.82658 | 4499.4749 | 1.82712 | 4510.6615 | 1.82766 | 4521.8620 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.82769 | 4522.5625 | 1.82823 | 4533.7778 | 1.82877 | 4545.0069 |
| 1/16 | 1.82773 | 4523.2630 | 1.82826 | 4534.4792 | 1.82880 | 4545.7092 |
| 1/8 | 1.82776 | 4523.9637 | 1.82830 | 4535.1807 | 1.82883 | 4546.4116 |
| 3/16 | 1.82779 | 4524.6643 | 1.82833 | 4535.8822 | 1.82887 | 4547.1140 |
| 1/4 | 1.82783 | 4525.3650 | 1.82836 | 4536.5838 | 1.82890 | 4547.8164 |
| 5/16 | 1.82786 | 4526.0658 | 1.82840 | 4537.2854 | 1.82894 | 4548.5189 |
| 3/8 | 1.82789 | 4526.7666 | 1.82843 | 4537.9871 | 1.82897 | 4549.2215 |
| 7/16 | 1.82793 | 4527.4675 | 1.82847 | 4538.6888 | 1.82900 | 4549.9241 |
| 1/2 | 1.82796 | 4528.1684 | 1.82850 | 4539.3906 | 1.82904 | 4550.6267 |
| 9/16 | 1.82799 | 4528.8694 | 1.82853 | 4540.0925 | 1.82907 | 4551.3295 |
| 5/8 | 1.82803 | 4529.5704 | 1.82857 | 4540.7944 | 1.82910 | 4552.0322 |
| 11/16 | 1.82806 | 4530.2715 | 1.82860 | 4541.4963 | 1.82914 | 4552.7351 |
| 3/4 | 1.82810 | 4530.9727 | 1.82863 | 4542.1984 | 1.82917 | 4553.4379 |
| 13/16 | 1.82813 | 4531.6739 | 1.82867 | 4542.9004 | 1.82920 | 4554.1409 |
| 7/8 | 1.82816 | 4532.3751 | 1.82870 | 4543.6025 | 1.82924 | 4554.8439 |
| 15/16 | 1.82820 | 4533.0764 | 1.82873 | 4544.3047 | 1.82927 | 4555.5469 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.82930 | 4556.2500 | 1.82984 | 4567.5069 | 1.83037 | 4578.7778 |
| 1/16 | 1.82934 | 4556.9532 | 1.82987 | 4568.2110 | 1.83041 | 4579.4827 |
| 1/8 | 1.82937 | 4557.6564 | 1.82991 | 4568.9150 | 1.83044 | 4580.1876 |
| 3/16 | 1.82940 | 4558.3596 | 1.82994 | 4569.6192 | 1.83048 | 4580.8926 |
| 1/4 | 1.82944 | 4559.0629 | 1.82997 | 4570.3234 | 1.83051 | 4581.5977 |
| 5/16 | 1.82947 | 4559.7663 | 1.83001 | 4571.0276 | 1.83054 | 4582.3028 |
| 3/8 | 1.82950 | 4560.4697 | 1.83004 | 4571.7319 | 1.83058 | 4583.0079 |
| 7/16 | 1.82954 | 4561.1732 | 1.83007 | 4572.4362 | 1.83061 | 4583.7131 |
| 1/2 | 1.82957 | 4561.8767 | 1.83011 | 4573.1406 | 1.83064 | 4584.4184 |
| 9/16 | 1.82961 | 4562.5803 | 1.83014 | 4573.8451 | 1.83068 | 4585.1237 |
| 5/8 | 1.82964 | 4563.2840 | 1.83017 | 4574.5496 | 1.83071 | 4585.8291 |
| 11/16 | 1.82967 | 4563.9877 | 1.83021 | 4575.2542 | 1.83074 | 4586.5345 |
| 3/4 | 1.82971 | 4564.6914 | 1.83024 | 4575.9588 | 1.83078 | 4587.2400 |
| 13/16 | 1.82974 | 4565.3952 | 1.83027 | 4576.6634 | 1.83081 | 4587.9456 |
| 7/8 | 1.82977 | 4566.0991 | 1.83031 | 4577.3682 | 1.83084 | 4588.6512 |
| 15/16 | 1.82981 | 4566.8030 | 1.83034 | 4578.0729 | 1.83088 | 4589.3568 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.83091 | 4590.0625 | 1.83144 | 4601.3611 | 1.83198 | 4612.6736 |
| 1/16 | 1.83094 | 4590.7683 | 1.83148 | 4602.0677 | 1.83201 | 4613.3811 |
| 1/8 | 1.83098 | 4591.4741 | 1.83151 | 4602.7744 | 1.83204 | 4614.0887 |
| 3/16 | 1.83101 | 4592.1799 | 1.83154 | 4603.4811 | 1.83208 | 4614.7963 |
| 1/4 | 1.83104 | 4592.8859 | 1.83158 | 4604.1879 | 1.83211 | 4615.5039 |
| 5/16 | 1.83108 | 4593.5918 | 1.83161 | 4604.8948 | 1.83214 | 4616.2116 |
| 3/8 | 1.83111 | 4594.2979 | 1.83164 | 4605.6017 | 1.83218 | 4616.9194 |
| 7/16 | 1.83114 | 4595.0039 | 1.83168 | 4606.3086 | 1.83221 | 4617.6272 |
| 1/2 | 1.83118 | 4595.7101 | 1.83171 | 4607.0156 | 1.83224 | 4618.3351 |
| 9/16 | 1.83121 | 4596.4163 | 1.83174 | 4607.7227 | 1.83228 | 4619.0430 |
| 5/8 | 1.83124 | 4597.1225 | 1.83178 | 4608.4298 | 1.83231 | 4619.7510 |
| 11/16 | 1.83128 | 4597.8288 | 1.83181 | 4609.1370 | 1.83234 | 4620.4590 |
| 3/4 | 1.83131 | 4598.5352 | 1.83184 | 4609.8442 | 1.83238 | 4621.1671 |
| 13/16 | 1.83134 | 4599.2416 | 1.83188 | 4610.5515 | 1.83241 | 4621.8752 |
| 7/8 | 1.83138 | 4599.9480 | 1.83191 | 4611.2588 | 1.83244 | 4622.5834 |
| 15/16 | 1.83141 | 4600.6545 | 1.83194 | 4611.9662 | 1.83248 | 4623.2917 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.83251 | 4624.0000 | 1.83304 | 4635.3403 | 1.83357 | 4646.6944 |
| 1/16 | 1.83254 | 4624.7084 | 1.83307 | 4636.0495 | 1.83361 | 4647.4045 |
| 1/8 | 1.83258 | 4625.4168 | 1.83311 | 4636.7588 | 1.83364 | 4648.1147 |
| 3/16 | 1.83261 | 4626.1252 | 1.83314 | 4637.4681 | 1.83367 | 4648.8249 |
| 1/4 | 1.83264 | 4626.8338 | 1.83317 | 4638.1775 | 1.83370 | 4649.5352 |
| 5/16 | 1.83268 | 4627.5423 | 1.83321 | 4638.8870 | 1.83374 | 4650.2455 |
| 3/8 | 1.83271 | 4628.2510 | 1.83324 | 4639.5965 | 1.83377 | 4650.9558 |
| 7/16 | 1.83274 | 4628.9597 | 1.83327 | 4640.3060 | 1.83380 | 4651.6663 |
| 1/2 | 1.83277 | 4629.6684 | 1.83331 | 4641.0156 | 1.83384 | 4652.3767 |
| 9/16 | 1.83281 | 4630.3772 | 1.83334 | 4641.7253 | 1.83387 | 4653.0873 |
| 5/8 | 1.83284 | 4631.0860 | 1.83337 | 4642.4350 | 1.83390 | 4653.7979 |
| 11/16 | 1.83287 | 4631.7949 | 1.83341 | 4643.1448 | 1.83394 | 4654.5085 |
| 3/4 | 1.83291 | 4632.5039 | 1.83344 | 4643.8546 | 1.83397 | 4655.2192 |
| 13/16 | 1.83294 | 4633.2129 | 1.83347 | 4644.5645 | 1.83400 | 4655.9299 |
| 7/8 | 1.83297 | 4633.9220 | 1.83351 | 4645.2744 | 1.83404 | 4656.6407 |
| 15/16 | 1.83301 | 4634.6311 | 1.83354 | 4645.9844 | 1.83407 | 4657.3516 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.83410 | 4658.0625 | 1.83463 | 4669.4444 | 1.83516 | 4680.8403 |
| 1/16 | 1.83414 | 4658.7735 | 1.83467 | 4670.1563 | 1.83519 | 4681.5530 |
| 1/8 | 1.83417 | 4659.4845 | 1.83470 | 4670.8682 | 1.83523 | 4682.2657 |
| 3/16 | 1.83420 | 4660.1956 | 1.83473 | 4671.5801 | 1.83526 | 4682.9785 |
| 1/4 | 1.83424 | 4660.9067 | 1.83476 | 4672.2921 | 1.83529 | 4683.6914 |
| 5/16 | 1.83427 | 4661.6179 | 1.83480 | 4673.0042 | 1.83533 | 4684.4043 |
| 3/8 | 1.83430 | 4662.3291 | 1.83483 | 4673.7163 | 1.83536 | 4685.1173 |
| 7/16 | 1.83433 | 4663.0404 | 1.83486 | 4674.4284 | 1.83539 | 4685.8303 |
| 1/2 | 1.83437 | 4663.7517 | 1.83490 | 4675.1406 | 1.83543 | 4686.5434 |
| 9/16 | 1.83440 | 4664.4631 | 1.83493 | 4675.8529 | 1.83546 | 4687.2565 |
| 5/8 | 1.83443 | 4665.1746 | 1.83496 | 4676.5652 | 1.83549 | 4687.9697 |
| 11/16 | 1.83447 | 4665.8861 | 1.83500 | 4677.2776 | 1.83553 | 4688.6830 |
| 3/4 | 1.83450 | 4666.5977 | 1.83503 | 4677.9900 | 1.83556 | 4689.3963 |
| 13/16 | 1.83453 | 4667.3093 | 1.83506 | 4678.7025 | 1.83559 | 4690.1096 |
| 7/8 | 1.83457 | 4668.0209 | 1.83510 | 4679.4150 | 1.83562 | 4690.8230 |
| 15/16 | 1.83460 | 4668.7327 | 1.83513 | 4680.1276 | 1.83566 | 4691.5365 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.83569 | 4692.2500 | 1.83622 | 4703.6736 | 1.83675 | 4715.1111 |
| 1/16 | 1.83572 | 4692.9636 | 1.83625 | 4704.3880 | 1.83678 | 4715.8264 |
| 1/8 | 1.83576 | 4693.6772 | 1.83628 | 4705.1025 | 1.83681 | 4716.5418 |
| 3/16 | 1.83579 | 4694.3909 | 1.83632 | 4705.8171 | 1.83684 | 4717.2572 |
| 1/4 | 1.83582 | 4695.1046 | 1.83635 | 4706.5317 | 1.83688 | 4717.9727 |
| 5/16 | 1.83586 | 4695.8184 | 1.83638 | 4707.2463 | 1.83691 | 4718.6882 |
| 3/8 | 1.83589 | 4696.5322 | 1.83642 | 4707.9610 | 1.83694 | 4719.4038 |
| 7/16 | 1.83592 | 4697.2461 | 1.83645 | 4708.6758 | 1.83698 | 4720.1194 |
| 1/2 | 1.83595 | 4697.9601 | 1.83648 | 4709.3906 | 1.83701 | 4720.8351 |
| 9/16 | 1.83599 | 4698.6741 | 1.83652 | 4710.1055 | 1.83704 | 4721.5508 |
| 5/8 | 1.83602 | 4699.3881 | 1.83655 | 4710.8204 | 1.83708 | 4722.2666 |
| 11/16 | 1.83605 | 4700.1022 | 1.83658 | 4711.5354 | 1.83711 | 4722.9824 |
| 3/4 | 1.83609 | 4700.8164 | 1.83661 | 4712.2504 | 1.83714 | 4723.6984 |
| 13/16 | 1.83612 | 4701.5306 | 1.83665 | 4712.9655 | 1.83717 | 4724.4143 |
| 7/8 | 1.83615 | 4702.2449 | 1.83668 | 4713.6807 | 1.83721 | 4725.1303 |
| 15/16 | 1.83619 | 4702.9592 | 1.83671 | 4714.3959 | 1.83724 | 4725.8464 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.83727 | 4726.5625 | 1.83780 | 4738.0278 | 1.83832 | 4749.5069 |
| 1/16 | 1.83731 | 4727.2787 | 1.83783 | 4738.7448 | 1.83836 | 4750.2249 |
| 1/8 | 1.83734 | 4727.9949 | 1.83786 | 4739.4619 | 1.83839 | 4750.9428 |
| 3/16 | 1.83737 | 4728.7112 | 1.83790 | 4740.1791 | 1.83842 | 4751.6608 |
| 1/4 | 1.83740 | 4729.4275 | 1.83793 | 4740.8963 | 1.83846 | 4752.3789 |
| 5/16 | 1.83744 | 4730.1439 | 1.83796 | 4741.6135 | 1.83849 | 4753.0970 |
| 3/8 | 1.83747 | 4730.8604 | 1.83800 | 4742.3308 | 1.83852 | 4753.8152 |
| 7/16 | 1.83750 | 4731.5769 | 1.83803 | 4743.0482 | 1.83855 | 4754.5334 |
| 1/2 | 1.83754 | 4732.2934 | 1.83806 | 4743.7656 | 1.83859 | 4755.2517 |
| 9/16 | 1.83757 | 4733.0100 | 1.83809 | 4744.4831 | 1.83862 | 4755.9701 |
| 5/8 | 1.83760 | 4733.7267 | 1.83813 | 4745.2006 | 1.83865 | 4756.6885 |
| 11/16 | 1.83763 | 4734.4434 | 1.83816 | 4745.9182 | 1.83869 | 4757.4069 |
| 3/4 | 1.83767 | 4735.1602 | 1.83819 | 4746.6359 | 1.83872 | 4758 1254 |
| 13/16 | 1.83770 | 4735.8770 | 1.83823 | 4747.3535 | 1.83875 | 4758.8440 |
| 7/8 | 1.83773 | 4736.5939 | 1.83826 | 4748.0713 | 1.83878 | 4759.5626 |
| 15/16 | 1.83777 | 4737.3108 | 1.83829 | 4748.7891 | 1.83882 | 4760.2813 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.83885 | 4761.0000 | 1.83937 | 4772.5069 | 1.83990 | 4784.0278 |
| 1/16 | 1.83888 | 4761.7188 | 1.83941 | 4773.2266 | 1.83993 | 4784.7483 |
| 1/8 | 1.83891 | 4762.4376 | 1.83944 | 4773.9463 | 1.83996 | 4785.4689 |
| 3/16 | 1.83895 | 4763.1565 | 1.83947 | 4774.6660 | 1.83999 | 4786.1895 |
| 1/4 | 1.83898 | 4763.8754 | 1.83950 | 4775.3859 | 1.84003 | 4786.9102 |
| 5/16 | 1.83901 | 4764.5944 | 1.83954 | 4776.1057 | 1.84006 | 4787.6309 |
| 3/8 | 1.83905 | 4765.3135 | 1.83957 | 4776.8256 | 1.84009 | 4788.3517 |
| 7/16 | 1.83908 | 4766.0326 | 1.83960 | 4777.5456 | 1.84013 | 4789.0725 |
| 1/2 | 1.83911 | 4766.7517 | 1.83964 | 4778.2656 | 1.84016 | 4789.7934 |
| 9/16 | 1.83914 | 4767.4709 | 1.83967 | 4778.9857 | 1.84019 | 4790.5144 |
| 5/8 | 1.83918 | 4768.1902 | 1.83970 | 4779.7058 | 1.84022 | 4791.2354 |
| 11/16 | 1.83921 | 4768.9095 | 1.83973 | 4780.4260 | 1.84026 | 4791.9564 |
| 3/4 | 1.83924 | 4769.6289 | 1.83977 | 4781.1463 | 1.84029 | 4792.6775 |
| 13/16 | 1.83928 | 4770.3483 | 1.83980 | 4781.8666 | 1.84032 | 4793.3987 |
| 7/8 | 1.83931 | 4771.0678 | 1.83983 | 4782.5869 | 1.84035 | 4794.1199 |
| 15/16 | 1.83934 | 4771.7874 | 1.83986 | 4783.3073 | 1.84039 | 4794.8412 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.84042 | 4795.5625 | 1.84094 | 4807.1111 | 1.84146 | 4818.6736 |
| 1/16 | 1.84045 | 4796.2839 | 1.84097 | 4807.8334 | 1.84150 | 4819.3967 |
| 1/8 | 1.84049 | 4797.0053 | 1.84101 | 4808.5557 | 1.84153 | 4820.1199 |
| 3/16 | 1.84052 | 4797.7268 | 1.84104 | 4809.2780 | 1.84156 | 4820.8431 |
| 1/4 | 1.84055 | 4798.4484 | 1.84107 | 4810.0004 | 1.84159 | 4821.5664 |
| 5/16 | 1.84058 | 4799.1699 | 1.84111 | 4810.7229 | 1.84163 | 4822.2897 |
| 3/8 | 1.84062 | 4799.8916 | 1.84114 | 4811.4454 | 1.84166 | 4823.0131 |
| 7/16 | 1.84065 | 4800.6133 | 1.84117 | 4812.1680 | 1.84169 | 4823.7366 |
| 1/2 | 1.84068 | 4801.3351 | 1.84120 | 4812.8906 | 1.84172 | 4824.4601 |
| 9/16 | 1.84071 | 4802.0569 | 1.84124 | 4813.6133 | 1.84176 | 4825.1836 |
| 5/8 | 1.84075 | 4802.7788 | 1.84127 | 4814.3360 | 1.84179 | 4825.9072 |
| 11/16 | 1.84078 | 4803.5007 | 1.84130 | 4815.0588 | 1.84182 | 4826.6309 |
| 3/4 | 1.84081 | 4804.2227 | 1.84133 | 4815.7817 | 1.84185 | 4827.3546 |
| 13/16 | 1.84084 | 4804.9447 | 1.84137 | 4816.5046 | 1.84189 | 4828.0784 |
| 7/8 | 1.84088 | 4805.6668 | 1.84140 | 4817.2275 | 1.84192 | 4828.8022 |
| 15/16 | 1.84091 | 4806.3889 | 1.84143 | 4817.9505 | 1.84195 | 4829.5261 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.84198 | 4830.2500 | 1.84251 | 4841.8403 | 1.84303 | 4853.4444 |
| 1/16 | 1.84202 | 4830.9740 | 1.84254 | 4842.5651 | 1.84306 | 4854.1702 |
| 1/8 | 1.84205 | 4831.6980 | 1.84257 | 4843.2900 | 1.84309 | 4854.8959 |
| 3/16 | 1.84208 | 4832.4221 | 1.84260 | 4844.0150 | 1.84312 | 4855.6218 |
| 1/4 | 1.84211 | 4833.1463 | 1.84264 | 4844.7400 | 1.84315 | 4856.3477 |
| 5/16 | 1.84215 | 4833.8705 | 1.84267 | 4845.4651 | 1.84319 | 4857.0736 |
| 3/8 | 1.84218 | 4834.5947 | 1.84270 | 4846.1902 | 1.84322 | 4857.7996 |
| 7/16 | 1.84221 | 4835.3190 | 1.84273 | 4846.9154 | 1.84325 | 4858.5256 |
| 1/2 | 1.84225 | 4836.0434 | 1.84277 | 4847.6406 | 1.84328 | 4859.2517 |
| 9/16 | 1.84228 | 4836.7678 | 1.84280 | 4848.3659 | 1.84332 | 4859.9779 |
| 5/8 | 1.84231 | 4837.4923 | 1.84283 | 4849.0913 | 1.84335 | 4860.7041 |
| 11/16 | 1.84234 | 4838.2168 | 1.84286 | 4849.8167 | 1.84338 | 4861.4304 |
| 3/4 | 1.84238 | 4838.9414 | 1.84290 | 4850.5421 | 1.84341 | 4862.1567 |
| 13/16 | 1.84241 | 4839.6660 | 1.84293 | 4851.2676 | 1.84345 | 4862.8831 |
| 7/8 | 1.84244 | 4840.3907 | 1.84296 | 4851.9932 | 1.84348 | 4863.6095 |
| 15/16 | 1.84247 | 4841.1155 | 1.84299 | 4852.7188 | 1.84351 | 4864.3360 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.84354 | 4865.0625 | 1.84406 | 4876.6944 | 1.84458 | 4888.3403 |
| 1/16 | 1.84358 | 4865.7891 | 1.84410 | 4877.4219 | 1.84461 | 4889.0686 |
| 1/8 | 1.84361 | 4866.5157 | 1.84413 | 4878.1494 | 1.84465 | 4889.7970 |
| 3/16 | 1.84364 | 4867.2424 | 1.84416 | 4878.8770 | 1.84468 | 4890.5254 |
| 1/4 | 1.84367 | 4867.9692 | 1.84419 | 4879.6046 | 1.84471 | 4891.2539 |
| 5/16 | 1.84371 | 4868.6960 | 1.84422 | 4880.3323 | 1.84474 | 4891.9824 |
| 3/8 | 1.84374 | 4869.4229 | 1.84426 | 4881.0600 | 1.84477 | 4892.7110 |
| 7/16 | 1.84377 | 4870.1498 | 1.84429 | 4881.7878 | 1.84481 | 4893.4397 |
| 1/2 | 1.84380 | 4870.8767 | 1.84432 | 4882.5156 | 1.84484 | 4894.1684 |
| 9/16 | 1.84384 | 4871.6038 | 1.84435 | 4883.2435 | 1.84487 | 4894.8972 |
| 5/8 | 1.84387 | 4872.3308 | 1.84439 | 4883.9715 | 1.84490 | 4895.6260 |
| 11/16 | 1.84390 | 4873.0580 | 1.84442 | 4884.6995 | 1.84494 | 4896.3548 |
| 3/4 | 1.84393 | 4873.7852 | 1.84445 | 4885.4275 | 1.84497 | 4897.0838 |
| 13/16 | 1.84397 | 4874.5124 | 1.84448 | 4886.1556 | 1.84500 | 4897.8127 |
| 7/8 | 1.84400 | 4875.2397 | 1.84452 | 4886.8838 | 1.84503 | 4898.5418 |
| 15/16 | 1.84403 | 4875.9670 | 1.84455 | 4887.6120 | 1.84507 | 4899.2709 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.84510 | 4900.0000 | 1.84561 | 4911.6736 | 1.84613 | 4923.3611 |
| 1/16 | 1.84513 | 4900.7292 | 1.84565 | 4912.4037 | 1.84616 | 4924.0920 |
| 1/8 | 1.84516 | 4901.4584 | 1.84568 | 4913.1338 | 1.84620 | 4924.8230 |
| 3/16 | 1.84519 | 4902.1877 | 1.84571 | 4913.8640 | 1.84623 | 4925.5541 |
| 1/4 | 1.84523 | 4902.9171 | 1.84574 | 4914.5942 | 1.84626 | 4926.2852 |
| 5/16 | 1.84526 | 4903.6465 | 1.84578 | 4915.3245 | 1.84629 | 4927.0163 |
| 3/8 | 1.84529 | 4904.3760 | 1.84581 | 4916.0548 | 1.84632 | 4927.7475 |
| 7/16 | 1.84532 | 4905.1055 | 1.84584 | 4916.7852 | 1.84636 | 4928.4788 |
| 1/2 | 1.84536 | 4905.8351 | 1.84587 | 4917.5156 | 1.84639 | 4929.2101 |
| 9/16 | 1.84539 | 4906.5647 | 1.84591 | 4918.2461 | 1.84642 | 4929.9414 |
| 5/8 | 1.84542 | 4907.2944 | 1.84594 | 4918.9767 | 1.84645 | 4930.6729 |
| 11/16 | 1.84545 | 4908.0241 | 1.84597 | 4919.7073 | 1.84649 | 4931.4043 |
| 3/4 | 1.84549 | 4908.7539 | 1.84600 | 4920.4379 | 1.84652 | 4932.1359 |
| 13/16 | 1.84552 | 4909.4838 | 1.84603 | 4921.1686 | 1.84655 | 4932.8674 |
| 7/8 | 1.84555 | 4910.2137 | 1.84607 | 4921.8994 | 1.84658 | 4933.5991 |
| 15/16 | 1.84558 | 4910.9436 | 1.84610 | 4922.6302 | 1.84661 | 4934.3308 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.84665 | 4935.0625 | 1.84716 | 4946.7778 | 1.84768 | 4958.5069 |
| 1/16 | 1.84668 | 4935.7943 | 1.84719 | 4947.5104 | 1.84771 | 4959.2405 |
| 1/8 | 1.84671 | 4936.5262 | 1.84723 | 4948.2432 | 1.84774 | 4959.9741 |
| 3/16 | 1.84674 | 4937.2581 | 1.84726 | 4948.9759 | 1.84777 | 4960.7077 |
| 1/4 | 1.84678 | 4937.9900 | 1.84729 | 4949.7088 | 1.84780 | 4961.4414 |
| 5/16 | 1.84681 | 4938.7220 | 1.84732 | 4950.4417 | 1.84784 | 4962.1752 |
| 3/8 | 1.84684 | 4939.4541 | 1.84735 | 4951.1746 | 1.84787 | 4962.9090 |
| 7/16 | 1.84687 | 4940.1862 | 1.84739 | 4951.9076 | 1.84790 | 4963.6428 |
| 1/2 | 1.84690 | 4940.9184 | 1.84742 | 4952.6406 | 1.84793 | 4964.3767 |
| 9/16 | 1.84694 | 4941.6506 | 1.84745 | 4953.3737 | 1.84796 | 4965.1107 |
| 5/8 | 1.84697 | 4942.3829 | 1.84748 | 4954.1069 | 1.84800 | 4965.8447 |
| 11/16 | 1.84700 | 4943.1153 | 1.84751 | 4954.8401 | 1.84803 | 4966.5788 |
| 3/4 | 1.84703 | 4943.8477 | 1.84755 | 4955.5734 | 1.84806 | 4967.3129 |
| 13/16 | 1.84706 | 4944.5801 | 1.84758 | 4956.3067 | 1.84809 | 4968.0471 |
| 7/8 | 1.84710 | 4945.3126 | 1.84761 | 4957.0400 | 1.84812 | 4968.7814 |
| 15/16 | 1.84713 | 4946.0452 | 1.84764 | 4957.7735 | 1.84816 | 4969.5157 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.84819 | 4970.2500 | 1.84870 | 4982.0069 | 1.84921 | 4993.7778 |
| 1/16 | 1.84822 | 4970.9844 | 1.84873 | 4982.7422 | 1.84925 | 4994.5139 |
| 1/8 | 1.84825 | 4971.7189 | 1.84877 | 4983.4775 | 1.84928 | 4995.2501 |
| 3/16 | 1.84829 | 4972.4534 | 1.84880 | 4984.2129 | 1.84931 | 4995.9864 |
| 1/4 | 1.84832 | 4973.1879 | 1.84883 | 4984.9484 | 1.84934 | 4996.7227 |
| 5/16 | 1.84835 | 4973.9226 | 1.84886 | 4985.6838 | 1.84937 | 4997.4590 |
| 3/8 | 1.84838 | 4974.6572 | 1.84889 | 4986.4194 | 1.84941 | 4998.1954 |
| 7/16 | 1.84841 | 4975.3920 | 1.84893 | 4987.1550 | 1.84944 | 4998.9319 |
| 1/2 | 1.84845 | 4976.1267 | 1.84896 | 4987.8906 | 1.84947 | 4999.6684 |
| 9/16 | 1.84848 | 4976.8616 | 1.84899 | 4988.6263 | 1.84950 | 5000.4050 |
| 5/8 | 1.84851 | 4977.5965 | 1.84902 | 4989.3621 | 1.84953 | 5001.1416 |
| 11/16 | 1.84854 | 4978.3314 | 1.84905 | 4990.0979 | 1.84957 | 5001.8783 |
| 3/4 | 1.84857 | 4979.0664 | 1.84909 | 4990.8338 | 1.84960 | 5002.6150 |
| 13/16 | 1.84861 | 4979.8015 | 1.84912 | 4991.5697 | 1.84963 | 5003.3518 |
| 7/8 | 1.84864 | 4980.5366 | 1.84915 | 4992.3057 | 1.84966 | 5004.0887 |
| 15/16 | 1.84867 | 4981.2717 | 1.84918 | 4993.0417 | 1.84969 | 5004.8255 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.84973 | 5005.5625 | 1.85024 | 5017.3611 | 1.85075 | 5029.1736 |
| 1/16 | 1.84976 | 5006.2995 | 1.85027 | 5018.0990 | 1.85078 | 5029.9124 |
| 1/8 | 1.84979 | 5007.0366 | 1.85030 | 5018.8369 | 1.85081 | 5030.6512 |
| 3/16 | 1.84982 | 5007.7737 | 1.85033 | 5019.5749 | 1.85084 | 5031.3900 |
| 1/4 | 1.84985 | 5008.5109 | 1.85037 | 5020.3129 | 1.85088 | 5032.1289 |
| 5/16 | 1.84989 | 5009.2481 | 1.85040 | 5021.0510 | 1.85091 | 5032.8679 |
| 3/8 | 1.84992 | 5009.9854 | 1.85043 | 5021.7892 | 1.85094 | 5033.6069 |
| 7/16 | 1.84995 | 5010.7227 | 1.85046 | 5022.5274 | 1.85097 | 5034.3459 |
| 1/2 | 1.84998 | 5011.4601 | 1.85049 | 5023.2656 | 1.85100 | 5035.0851 |
| 9/16 | 1.85001 | 5012.1975 | 1.85052 | 5024.0039 | 1.85104 | 5035.8242 |
| 5/8 | 1.85005 | 5012.9350 | 1.85056 | 5024.7423 | 1.85107 | 5036.5635 |
| 11/16 | 1.85008 | 5013.6726 | 1.85059 | 5025.4807 | 1.85110 | 5037.3028 |
| 3/4 | 1.85011 | 5014.4102 | 1.85062 | 5026.2192 | 1.85113 | 5038.0421 |
| 13/16 | 1.85014 | 5015.1478 | 1.85065 | 5026.9577 | 1.85116 | 5038.7815 |
| 7/8 | 1.85017 | 5015.8855 | 1.85068 | 5027.6963 | 1.85119 | 5039.5209 |
| 15/16 | 1.85021 | 5016.6233 | 1.85072 | 5028.4349 | 1.85123 | 5040.2604 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.85126 | 5041.0000 | 1.85177 | 5052.8403 | 1.85228 | 5064.6944 |
| 1/16 | 1.85129 | 5041.7396 | 1.85180 | 5053.5808 | 1.85231 | 5065.4358 |
| 1/8 | 1.85132 | 5042.4793 | 1.85183 | 5054.3213 | 1.85234 | 5066.1772 |
| 3/16 | 1.85135 | 5043.2190 | 1.85186 | 5055.0619 | 1.85237 | 5066.9186 |
| 1/4 | 1.85139 | 5043.9588 | 1.85190 | 5055.8025 | 1.85240 | 5067.6602 |
| 5/16 | 1.85142 | 5044.6986 | 1.85193 | 5056.5432 | 1.85244 | 5068.4017 |
| 3/8 | 1.85145 | 5045.4385 | 1.85196 | 5057.2840 | 1.85247 | 5069.1433 |
| 7/16 | 1.85148 | 5046.1784 | 1.85199 | 5058.0248 | 1.85250 | 5069.8850 |
| 1/2 | 1.85151 | 5046.9184 | 1.85202 | 5058.7656 | 1.85253 | 5070.6267 |
| 9/16 | 1.85154 | 5047.6584 | 1.85205 | 5059.5065 | 1.85256 | 5071.3685 |
| 5/8 | 1.85158 | 5048.3985 | 1.85209 | 5060.2475 | 1.85259 | 5072.1104 |
| 11/16 | 1.85161 | 5049.1387 | 1.85212 | 5060.9885 | 1.85263 | 5072.8522 |
| 3/4 | 1.85164 | 5049.8789 | 1.85215 | 5061.7296 | 1.85266 | 5073.5942 |
| 13/16 | 1.85167 | 5050.6192 | 1.85218 | 5062.4707 | 1.85269 | 5074.3362 |
| 7/8 | 1.85170 | 5051.3595 | 1.85221 | 5063.2119 | 1.85272 | 5075.0782 |
| 15/16 | 1.85174 | 5052.0999 | 1.85224 | 5063.9532 | 1.85275 | 5075.8203 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.85278 | 5076.5625 | 1.85329 | 5088.4444 | 1.85380 | 5100.3403 |
| 1/16 | 1.85282 | 5077.3047 | 1.85332 | 5089.1875 | 1.85383 | 5101.0842 |
| 1/8 | 1.85285 | 5078.0470 | 1.85336 | 5089.9307 | 1.85386 | 5101.8282 |
| 3/16 | 1.85288 | 5078.7893 | 1.85339 | 5090.6739 | 1.85389 | 5102.5723 |
| 1/4 | 1.85291 | 5079.5317 | 1.85342 | 5091.4171 | 1.85393 | 5103.3164 |
| 5/16 | 1.85294 | 5080.2741 | 1.85345 | 5092.1604 | 1.85396 | 5104.0606 |
| 3/8 | 1.85298 | 5081.0166 | 1.85348 | 5092.9038 | 1.85399 | 5104.8048 |
| 7/16 | 1.85301 | 5081.7591 | 1.85351 | 5093.6472 | 1.85402 | 5105.5491 |
| 1/2 | 1.85304 | 5082.5017 | 1.85355 | 5094.3906 | 1.85405 | 5106.2934 |
| 9/16 | 1.85307 | 5083.2444 | 1.85358 | 5095.1341 | 1.85408 | 5107.0378 |
| 5/8 | 1.85310 | 5083.9871 | 1.85361 | 5095.8777 | 1.85412 | 5107.7822 |
| 11/16 | 1.85313 | 5084.7298 | 1.85364 | 5096.6213 | 1.85415 | 5108.5267 |
| 3/4 | 1.85317 | 5085.4727 | 1.85367 | 5097.3650 | 1.85418 | 5109.2713 |
| 13/16 | 1.85320 | 5086.2155 | 1.85370 | 5098.1088 | 1.85421 | 5110.0159 |
| 7/8 | 1.85323 | 5086.9584 | 1.85374 | 5098.8525 | 1.85424 | 5110.7605 |
| 15/16 | 1.85326 | 5087.7014 | 1.85377 | 5099.5964 | 1.85427 | 5111.5052 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.85431 | 5112.2500 | 1.85481 | 5124.1736 | 1.85532 | 5136.1111 |
| 1/16 | 1.85434 | 5112.9948 | 1.85484 | 5124.9193 | 1.85535 | 5136.8577 |
| 1/8 | 1.85437 | 5113.7397 | 1.85488 | 5125.6650 | 1.85538 | 5137.6043 |
| 3/16 | 1.85440 | 5114.4846 | 1.85491 | 5126.4108 | 1.85541 | 5138.3509 |
| 1/4 | 1.85443 | 5115.2296 | 1.85494 | 5127.1567 | 1.85544 | 5139.0977 |
| 5/16 | 1.85446 | 5115.9746 | 1.85497 | 5127.9026 | 1.85547 | 5139.8444 |
| 3/8 | 1.85450 | 5116.7197 | 1.85500 | 5128.6485 | 1.85551 | 5140.5913 |
| 7/16 | 1.85453 | 5117.4649 | 1.85503 | 5129.3946 | 1.85554 | 5141.3381 |
| 1/2 | 1.85456 | 5118.2101 | 1.85506 | 5130.1406 | 1.85557 | 5142.0851 |
| 9/16 | 1.85459 | 5118.9553 | 1.85510 | 5130.8867 | 1.85560 | 5142.8321 |
| 5/8 | 1.85462 | 5119.7006 | 1.85513 | 5131.6329 | 1.85563 | 5143.5791 |
| 11/16 | 1.85465 | 5120.4460 | 1.85516 | 5132.3792 | 1.85566 | 5144.3262 |
| 3/4 | 1.85469 | 5121.1914 | 1.85519 | 5133.1254 | 1.85570 | 5145.0734 |
| 13/16 | 1.85472 | 5121.9369 | 1.85522 | 5133.8718 | 1.85573 | 5145.8206 |
| 7/8 | 1.85475 | 5122.6824 | 1.85525 | 5134.6182 | 1.85576 | 5146.5678 |
| 15/16 | 1.85478 | 5123.4280 | 1.85529 | 5135.3646 | 1.85579 | 5147.3151 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.85582 | 5148.0625 | 1.85633 | 5160.0278 | 1.85683 | 5172.0069 |
| 1/16 | 1.85585 | 5148.8099 | 1.85636 | 5160.7761 | 1.85686 | 5172.7561 |
| 1/8 | 1.85588 | 5149.5574 | 1.85639 | 5161.5244 | 1.85689 | 5173.5053 |
| 3/16 | 1.85592 | 5150.3049 | 1.85642 | 5162.2728 | 1.85692 | 5174.2546 |
| 1/4 | 1.85595 | 5151.0525 | 1.85645 | 5163.0213 | 1.85696 | 5175.0039 |
| 5/16 | 1.85598 | 5151.8002 | 1.85648 | 5163.7698 | 1.85699 | 5175.7533 |
| 3/8 | 1.85601 | 5152.5479 | 1.85651 | 5164.5183 | 1.85702 | 5176.5027 |
| 7/16 | 1.85604 | 5153.2956 | 1.85655 | 5165.2670 | 1.85705 | 5177.2522 |
| 1/2 | 1.85607 | 5154.0434 | 1.85658 | 5166.0156 | 1.85708 | 5178.0017 |
| 9/16 | 1.85611 | 5154.7913 | 1.85661 | 5166.7644 | 1.85711 | 5178.7513 |
| 5/8 | 1.85614 | 5155.5392 | 1.85664 | 5167.5131 | 1.85714 | 5179.5010 |
| 11/16 | 1.85617 | 5156.2871 | 1.85667 | 5168.2620 | 1.85718 | 5180.2507 |
| 3/4 | 1.85620 | 5157.0352 | 1.85670 | 5169.0109 | 1.85721 | 5181.0004 |
| 13/16 | 1.85623 | 5157.7832 | 1.85674 | 5169.7598 | 1.85724 | 5181.7502 |
| 7/8 | 1.85626 | 5158.5314 | 1.85677 | 5170.5088 | 1.85727 | 5182.5001 |
| 15/16 | 1.85629 | 5159.2795 | 1.85680 | 5171.2578 | 1.85730 | 5183.2500 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.85733 | 5184.0000 | 1.85783 | 5196.0069 | 1.85834 | 5208.0278 |
| 1/16 | 1.85736 | 5184.7500 | 1.85787 | 5196.7578 | 1.85837 | 5208.7795 |
| 1/8 | 1.85740 | 5185.5001 | 1.85790 | 5197.5088 | 1.85840 | 5209.5314 |
| 3/16 | 1.85743 | 5186.2502 | 1.85793 | 5198.2598 | 1.85843 | 5210.2832 |
| 1/4 | 1.85746 | 5187.0004 | 1.85796 | 5199.0109 | 1.85846 | 5211.0352 |
| 5/16 | 1.85749 | 5187.7507 | 1.85799 | 5199.7620 | 1.85849 | 5211.7871 |
| 3/8 | 1.85752 | 5188.5010 | 1.85802 | 5200.5131 | 1.85852 | 5212.5392 |
| 7/16 | 1.85755 | 5189.2513 | 1.85805 | 5201.2644 | 1.85856 | 5213.2913 |
| 1/2 | 1.85758 | 5190.0017 | 1.85809 | 5202.0156 | 1.85859 | 5214.0434 |
| 9/16 | 1.85762 | 5190.7522 | 1.85812 | 5202.7670 | 1.85862 | 5214.7956 |
| 5/8 | 1.85765 | 5191.5027 | 1.85815 | 5203.5183 | 1.85865 | 5215.5479 |
| 11/16 | 1.85768 | 5192.2533 | 1.85818 | 5204.2698 | 1.85868 | 5216.3002 |
| 3/4 | 1.85771 | 5193.0039 | 1.85821 | 5205.0213 | 1.85871 | 5217.0525 |
| 13/16 | 1.85774 | 5193.7546 | 1.85824 | 5205.7728 | 1.85874 | 5217.8049 |
| 7/8 | 1.85777 | 5194.5053 | 1.85827 | 5206.5244 | 1.85878 | 5218.5574 |
| 15/16 | 1.85780 | 5195.2561 | 1.85831 | 5207.2761 | 1.85881 | 5219.3099 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.85884 | 5220.0625 | 1.85934 | 5232.1111 | 1.85984 | 5244.1736 |
| 1/16 | 1.85887 | 5220.8151 | 1.85937 | 5232.8646 | 1.85987 | 5244.9280 |
| 1/8 | 1.85890 | 5221.5678 | 1.85940 | 5233.6182 | 1.85990 | 5245.6824 |
| 3/16 | 1.85893 | 5222.3206 | 1.85943 | 5234.3718 | 1.85993 | 5246.4369 |
| 1/4 | 1.85896 | 5223.0734 | 1.85946 | 5235.1254 | 1.85996 | 5247.1914 |
| 5/16 | 1.85899 | 5223.8262 | 1.85949 | 5235.8792 | 1.85999 | 5247.9460 |
| 3/8 | 1.85903 | 5224.5791 | 1.85953 | 5236.6329 | 1.86003 | 5248.7006 |
| 7/16 | 1.85906 | 5225.3321 | 1.85956 | 5237.3867 | 1.86006 | 5249.4553 |
| 1/2 | 1.85909 | 5226.0851 | 1.85959 | 5238.1406 | 1.86009 | 5250.2101 |
| 9/16 | 1.85912 | 5226.8381 | 1.85962 | 5238.8946 | 1.86012 | 5250.9649 |
| 5/8 | 1.85915 | 5227.5913 | 1.85965 | 5239.6485 | 1.86015 | 5251.7197 |
| 11/16 | 1.85918 | 5228.3444 | 1.85968 | 5240.4026 | 1.86018 | 5252.4746 |
| 3/4 | 1.85921 | 5229.0977 | 1.85971 | 5241.1567 | 1.86021 | 5253.2296 |
| 13/16 | 1.85924 | 5229.8509 | 1.85974 | 5241.9108 | 1.86024 | 5253.9846 |
| 7/8 | 1.85928 | 5230.6043 | 1.85978 | 5242.6650 | 1.86028 | 5254.7397 |
| 15/16 | 1.85931 | 5231.3577 | 1.85981 | 5243.4193 | 1.86031 | 5255.4948 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.86034 | 5256.2500 | 1.86084 | 5268.3403 | 1.86134 | 5280.4444 |
| 1/16 | 1.86037 | 5257.0052 | 1.86087 | 5269.0964 | 1.86137 | 5281.2014 |
| 1/8 | 1.86040 | 5257.7605 | 1.86090 | 5269.8525 | 1.86140 | 5281.9584 |
| 3/16 | 1.86043 | 5258.5159 | 1.86093 | 5270.6088 | 1.86143 | 5282.7155 |
| 1/4 | 1.86046 | 5259.2713 | 1.86096 | 5271.3650 | 1.86146 | 5283.4727 |
| 5/16 | 1.86049 | 5260.0267 | 1.86099 | 5272.1213 | 1.86149 | 5284.2298 |
| 3/8 | 1.86053 | 5260.7822 | 1.86102 | 5272.8777 | 1.86152 | 5284.9871 |
| 7/16 | 1.86056 | 5261.5378 | 1.86106 | 5273.6341 | 1.86155 | 5285.7444 |
| 1/2 | 1.86059 | 5262.2934 | 1.86109 | 5274.3906 | 1.86158 | 5286.5017 |
| 9/16 | 1.86062 | 5263.0491 | 1.86112 | 5275.1472 | 1.86162 | 5287.2591 |
| 5/8 | 1.86065 | 5263.8048 | 1.86115 | 5275.9038 | 1.86165 | 5288.0166 |
| 11/16 | 1.86068 | 5264.5606 | 1.86118 | 5276.6604 | 1.86168 | 5288.7741 |
| 3/4 | 1.86071 | 5265.3164 | 1.86121 | 5277.4171 | 1.86171 | 5289.5317 |
| 13/16 | 1.86074 | 5266.0723 | 1.86124 | 5278.1739 | 1.86174 | 5290.2893 |
| 7/8 | 1.86077 | 5266.8282 | 1.86127 | 5278.9307 | 1.86177 | 5291.0470 |
| 15/16 | 1.86081 | 5267.5842 | 1.86130 | 5279.6875 | 1.86180 | 5291.8047 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.86183 | 5292.5625 | 1.86233 | 5304.6944 | 1.86283 | 5316.8403 |
| 1/16 | 1.86186 | 5293.3203 | 1.86236 | 5305.4532 | 1.86286 | 5317.5999 |
| 1/8 | 1.86190 | 5294.0782 | 1.86239 | 5306.2119 | 1.86289 | 5318.3595 |
| 3/16 | 1.86193 | 5294.8362 | 1.86242 | 5306.9707 | 1.86292 | 5319.1192 |
| 1/4 | 1.86196 | 5295.5942 | 1.86245 | 5307.7296 | 1.86295 | 5319.8789 |
| 5/16 | 1.86199 | 5296.3522 | 1.86249 | 5308.4885 | 1.86298 | 5320.6387 |
| 3/8 | 1.86202 | 5297.1104 | 1.86252 | 5309.2475 | 1.86301 | 5321.3985 |
| 7/16 | 1.86205 | 5297.8685 | 1.86255 | 5310.0065 | 1.86304 | 5322.1584 |
| 1/2 | 1.86208 | 5298.6267 | 1.86258 | 5310.7656 | 1.86307 | 5322.9184 |
| 9/16 | 1.86211 | 5299.3850 | 1.86261 | 5311.5248 | 1.86311 | 5323.6784 |
| 5/8 | 1.86214 | 5300.1433 | 1.86264 | 5312.2840 | 1.86314 | 5324.4385 |
| 11/16 | 1.86217 | 5300.9017 | 1.86267 | 5313.0432 | 1.86317 | 5325.1986 |
| 3/4 | 1.86221 | 5301.6602 | 1.86270 | 5313.8025 | 1.86320 | 5325.9588 |
| 13/16 | 1.86224 | 5302.4186 | 1.86273 | 5314.5619 | 1.86323 | 5326.7190 |
| 7/8 | 1.86227 | 5303.1772 | 1.86276 | 5315.3213 | 1.86326 | 5327.4793 |
| 15/16 | 1.86230 | 5303.9358 | 1.86280 | 5316.0808 | 1.86329 | 5328.2396 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.86332 | 5329.0000 | 1.86382 | 5341.1736 | 1.86431 | 5353.3611 |
| 1/16 | 1.86335 | 5329.7604 | 1.86385 | 5341.9349 | 1.86434 | 5354.1233 |
| 1/8 | 1.86338 | 5330.5209 | 1.86388 | 5342.6963 | 1.86438 | 5354.8855 |
| 3/16 | 1.86342 | 5331.2815 | 1.86391 | 5343.4577 | 1.86441 | 5355.6478 |
| 1/4 | 1.86345 | 5332.0421 | 1.86394 | 5344.2192 | 1.86444 | 5356.4102 |
| 5/16 | 1.86348 | 5332.8028 | 1.86397 | 5344.9807 | 1.86447 | 5357.1726 |
| 3/8 | 1.86351 | 5333.5635 | 1.86400 | 5345.7423 | 1.86450 | 5357.9350 |
| 7/16 | 1.86354 | 5334.3242 | 1.86403 | 5346.5039 | 1.86453 | 5358.6975 |
| 1/2 | 1.86357 | 5335.0851 | 1.86407 | 5347.2656 | 1.86456 | 5359.4601 |
| 9/16 | 1.86360 | 5335.8459 | 1.86410 | 5348.0274 | 1.86459 | 5360.2227 |
| 5/8 | 1.86363 | 5336.6069 | 1.86413 | 5348.7892 | 1.86462 | 5360.9854 |
| 11/16 | 1.86366 | 5337.3679 | 1.86416 | 5349.5510 | 1.86465 | 5361.7481 |
| 3/4 | 1.86369 | 5338.1289 | 1.86419 | 5350.3129 | 1.86468 | 5362.5109 |
| 13/16 | 1.86373 | 5338.8900 | 1.86422 | 5351.0749 | 1.86471 | 5363.2737 |
| 7/8 | 1.86376 | 5339.6512 | 1.86425 | 5351.8369 | 1.86475 | 5364.0366 |
| 15/16 | 1.86379 | 5340.4124 | 1.86428 | 5352.5990 | 1.86478 | 5364.7995 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.86481 | 5365.5625 | 1.86530 | 5377.7778 | 1.86579 | 5390.0069 |
| 1/16 | 1.86484 | 5366.3255 | 1.86533 | 5378.5417 | 1.86583 | 5390.7717 |
| 1/8 | 1.86487 | 5367.0887 | 1.86536 | 5379.3057 | 1.86586 | 5391.5366 |
| 3/16 | 1.86490 | 5367.8518 | 1.86539 | 5380.0697 | 1.86589 | 5392.3015 |
| 1/4 | 1.86493 | 5368.6150 | 1.86542 | 5380.8338 | 1.86592 | 5393.0664 |
| 5/16 | 1.86496 | 5369.3783 | 1.86546 | 5381.5979 | 1.86595 | 5393.8314 |
| 3/8 | 1.86499 | 5370.1416 | 1.86549 | 5382.3621 | 1.86598 | 5394.5965 |
| 7/16 | 1.86502 | 5370.9050 | 1.86552 | 5383.1263 | 1.86601 | 5395.3616 |
| 1/2 | 1.86505 | 5371.6684 | 1.86555 | 5383.8906 | 1.86604 | 5396.1267 |
| 9/16 | 1.86509 | 5372.4319 | 1.86558 | 5384.6550 | 1.86607 | 5396.8920 |
| 5/8 | 1.86512 | 5373.1954 | 1.86561 | 5385.4194 | 1.86610 | 5397.6572 |
| 11/16 | 1.86515 | 5373.9590 | 1.86564 | 5386.1838 | 1.86613 | 5398.4226 |
| 3/4 | 1.86518 | 5374.7227 | 1.86567 | 5386.9484 | 1.86616 | 5399.1879 |
| 13/16 | 1.86521 | 5375.4864 | 1.86570 | 5387.7129 | 1.86620 | 5399.9534 |
| 7/8 | 1.86524 | 5376.2501 | 1.86573 | 5388.4775 | 1.86623 | 5400.7189 |
| 15/16 | 1.86527 | 5377.0139 | 1.86576 | 5389.2422 | 1.86626 | 5401.4844 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.86629 | 5402.2500 | 1.86678 | 5414.5069 | 1.86727 | 5426.7778 |
| 1/16 | 1.86632 | 5403.0157 | 1.86681 | 5415.2735 | 1.86730 | 5427.5452 |
| 1/8 | 1.86635 | 5403.7814 | 1.86684 | 5416.0400 | 1.86733 | 5428.3126 |
| 3/16 | 1.86638 | 5404.5471 | 1.86687 | 5416.8067 | 1.86736 | 5429.0801 |
| 1/4 | 1.86641 | 5405.3129 | 1.86690 | 5417.5734 | 1.86739 | 5429.8477 |
| 5/16 | 1.86644 | 5406.0788 | 1.86693 | 5418.3401 | 1.86742 | 5430.6153 |
| 3/8 | 1.86647 | 5406.8447 | 1.86696 | 5419.1069 | 1.86746 | 5431.3829 |
| 7/16 | 1.86650 | 5407.6107 | 1.86699 | 5419.8737 | 1.86749 | 5432.1506 |
| 1/2 | 1.86653 | 5408.3767 | 1.86703 | 5420.6406 | 1.86752 | 5432.9184 |
| 9/16 | 1.86656 | 5409.1428 | 1.86706 | 5421.4076 | 1.86755 | 5433.6862 |
| 5/8 | 1.86659 | 5409.9090 | 1.86709 | 5422.1746 | 1.86758 | 5434.4541 |
| 11/16 | 1.86663 | 5410.6752 | 1.86712 | 5422.9417 | 1.86761 | 5435.2220 |
| 3/4 | 1.86666 | 5411.4414 | 1.86715 | 5423.7088 | 1.86764 | 5435.9900 |
| 13/16 | 1.86669 | 5412.2077 | 1.86718 | 5424.4759 | 1.86767 | 5436.7581 |
| 7/8 | 1.86672 | 5412.9741 | 1.86721 | 5425.2432 | 1.86770 | 5437.5262 |
| 15/16 | 1.86675 | 5413.7405 | 1.86724 | 5426.0104 | 1.86773 | 5438.2943 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.86776 | 5439.0625 | 1.86825 | 5451.3611 | 1.86874 | 5463.6736 |
| 1/16 | 1.86779 | 5439.8308 | 1.86828 | 5452.1302 | 1.86877 | 5464.4436 |
| 1/8 | 1.86782 | 5440.5991 | 1.86831 | 5452.8994 | 1.86880 | 5465.2137 |
| 3/16 | 1.86785 | 5441.3674 | 1.86834 | 5453.6686 | 1.86883 | 5465.9838 |
| 1/4 | 1.86788 | 5442.1359 | 1.86838 | 5454.4379 | 1.86886 | 5466.7539 |
| 5/16 | 1.86792 | 5442.9043 | 1.86841 | 5455.2073 | 1.86890 | 5467.5241 |
| 3/8 | 1.86795 | 5443.6729 | 1.86844 | 5455.9767 | 1.86893 | 5468.2944 |
| 7/16 | 1.86798 | 5444.4414 | 1.86847 | 5456.7461 | 1.86896 | 5469.0647 |
| 1/2 | 1.86801 | 5445.2101 | 1.86850 | 5457.5156 | 1.86899 | 5469.8351 |
| 9/16 | 1.86804 | 5445.9788 | 1.86853 | 5458.2852 | 1.86902 | 5470.6055 |
| 5/8 | 1.86807 | 5446.7475 | 1.86856 | 5459.0548 | 1.86905 | 5471.3760 |
| 11/16 | 1.86810 | 5447.5163 | 1.86859 | 5459.8245 | 1.86908 | 5472.1465 |
| 3/4 | 1.86813 | 5448.2852 | 1.86862 | 5460.5942 | 1.86911 | 5472.9171 |
| 13/16 | 1.86816 | 5449.0541 | 1.86865 | 5461.3640 | 1.86914 | 5473.6877 |
| 7/8 | 1.86819 | 5449.8230 | 1.86868 | 5462.1338 | 1.86917 | 5474.4584 |
| 15/16 | 1.86822 | 5450.5920 | 1.86871 | 5462.9037 | 1.86920 | 5475.2292 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.86923 | 5476.0000 | 1.86972 | 5488.3403 | 1.87021 | 5500.6944 |
| 1/16 | 1.86926 | 5476.7709 | 1.86975 | 5489.1120 | 1.87024 | 5501.4670 |
| 1/8 | 1.86929 | 5477.5418 | 1.86978 | 5489.8838 | 1.87027 | 5502.2397 |
| 3/16 | 1.86932 | 5478.3127 | 1.86981 | 5490.6556 | 1.87030 | 5503.0124 |
| 1/4 | 1.86935 | 5479.0838 | 1.86984 | 5491.4275 | 1.87033 | 5503.7852 |
| 5/16 | 1.86938 | 5479.8548 | 1.86987 | 5492.1995 | 1.87036 | 5504.5580 |
| 3/8 | 1.86942 | 5480.6260 | 1.86990 | 5492.9715 | 1.87039 | 5505.3308 |
| 7/16 | 1.86945 | 5481.3972 | 1.86993 | 5493.7435 | 1.87042 | 5506.1038 |
| 1/2 | 1.86948 | 5482.1684 | 1.86996 | 5494.5156 | 1.87045 | 5506.8767 |
| 9/16 | 1.86951 | 5482.9397 | 1.87000 | 5495.2878 | 1.87048 | 5507.6498 |
| 5/8 | 1.86954 | 5483.7110 | 1.87003 | 5496.0600 | 1.87051 | 5508.4229 |
| 11/16 | 1.86957 | 5484.4824 | 1.87006 | 5496.8323 | 1.87054 | 5509.1960 |
| 3/4 | 1.86960 | 5485.2539 | 1.87009 | 5497.6046 | 1.87057 | 5509.9692 |
| 13/16 | 1.86963 | 5486.0254 | 1.87012 | 5498.3770 | 1.87061 | 5510.7424 |
| 7/8 | 1.86966 | 5486.7970 | 1.87015 | 5499.1494 | 1.87064 | 5511.5157 |
| 15/16 | 1.86969 | 5487.5686 | 1.87018 | 5499.9219 | 1.87067 | 5512.2891 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.87070 | 5513.0625 | 1.87118 | 5525.4444 | 1.87167 | 5537.8403 |
| 1/16 | 1.87073 | 5513.8360 | 1.87121 | 5526.2188 | 1.87170 | 5538.6155 |
| 1/8 | 1.87076 | 5514.6095 | 1.87124 | 5526.9932 | 1.87173 | 5539.3907 |
| 3/16 | 1.87079 | 5515.3831 | 1.87127 | 5527.7676 | 1.87176 | 5540.1660 |
| 1/4 | 1.87082 | 5516.1567 | 1.87131 | 5528.5421 | 1.87179 | 5540.9414 |
| 5/16 | 1.87085 | 5516.9304 | 1.87134 | 5529.3167 | 1.87182 | 5541.7168 |
| 3/8 | 1.87088 | 5517.7041 | 1.87137 | 5530.0913 | 1.87185 | 5542.4923 |
| 7/16 | 1.87091 | 5518.4779 | 1.87140 | 5530.8659 | 1.87188 | 5543.2678 |
| 1/2 | 1.87094 | 5519.2517 | 1.87143 | 5531.6406 | 1.87191 | 5544.0434 |
| 9/16 | 1.87097 | 5520.0256 | 1.87146 | 5532.4154 | 1.87194 | 5544.8190 |
| 5/8 | 1.87100 | 5520.7996 | 1.87149 | 5533.1902 | 1.87197 | 5545.5947 |
| 11/16 | 1.87103 | 5521.5736 | 1.87152 | 5533.9651 | 1.87200 | 5546.3705 |
| 3/4 | 1.87106 | 5522.3477 | 1.87155 | 5534.7400 | 1.87203 | 5547.1463 |
| 13/16 | 1.87109 | 5523.1218 | 1.87158 | 5535.5150 | 1.87207 | 5547.9221 |
| 7/8 | 1.87112 | 5523.8959 | 1.87161 | 5536.2900 | 1.87210 | 5548.6980 |
| 15/16 | 1.87115 | 5524.6702 | 1.87164 | 5537.0651 | 1.87213 | 5549.4740 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.87216 | 5550.2500 | 1.87264 | 5562.6736 | 1.87313 | 5575.1111 |
| 1/16 | 1.87219 | 5551.0261 | 1.87267 | 5563.4505 | 1.87316 | 5575.8889 |
| 1/8 | 1.87222 | 5551.8022 | 1.87270 | 5564.2275 | 1.87319 | 5576.6668 |
| 3/16 | 1.87225 | 5552.5784 | 1.87273 | 5565.0046 | 1.87322 | 5577.4447 |
| 1/4 | 1.87228 | 5553.3546 | 1.87276 | 5565.7817 | 1.87325 | 5578.2227 |
| 5/16 | 1.87231 | 5554.1309 | 1.87279 | 5566.5588 | 1.87328 | 5579.0007 |
| 3/8 | 1.87234 | 5554.9072 | 1.87282 | 5567.3360 | 1.87331 | 5579.7788 |
| 7/16 | 1.87237 | 5555.6836 | 1.87285 | 5568.1133 | 1.87334 | 5580.5569 |
| 1/2 | 1.87240 | 5556.4601 | 1.87288 | 5568.8906 | 1.87337 | 5581.3351 |
| 9/16 | 1.87243 | 5557.2366 | 1.87291 | 5569.6680 | 1.87340 | 5582.1133 |
| 5/8 | 1.87246 | 5558.0131 | 1.87295 | 5570.4454 | 1.87343 | 5582.8916 |
| 11/16 | 1.87249 | 5558.7897 | 1.87298 | 5571.2229 | 1.87346 | 5583.6699 |
| 3/4 | 1.87252 | 5559.5664 | 1.87301 | 5572.0004 | 1.87349 | 5584.4484 |
| 13/16 | 1.87255 | 5560.3431 | 1.87304 | 5572.7780 | 1.87352 | 5585.2268 |
| 7/8 | 1.87258 | 5561.1199 | 1.87307 | 5573.5557 | 1.87355 | 5586.0053 |
| 15/16 | 1.87261 | 5561.8967 | 1.87310 | 5574.3334 | 1.87358 | 5586.7839 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.87361 | 5587.5625 | 1.87410 | 5600.0278 | 1.87458 | 5612.5069 |
| 1/16 | 1.87364 | 5588.3412 | 1.87413 | 5600.8073 | 1.87461 | 5613.2874 |
| 1/8 | 1.87367 | 5589.1199 | 1.87416 | 5601.5869 | 1.87464 | 5614.0678 |
| 3/16 | 1.87370 | 5589.8987 | 1.87419 | 5602.3666 | 1.87467 | 5614.8483 |
| 1/4 | 1.87373 | 5590.6775 | 1.87422 | 5603.1463 | 1.87470 | 5615.6289 |
| 5/16 | 1.87376 | 5591.4564 | 1.87425 | 5603.9260 | 1.87473 | 5616.4095 |
| 3/8 | 1.87379 | 5592.2354 | 1.87428 | 5604.7058 | 1.87476 | 5617.1902 |
| 7/16 | 1.87382 | 5593.0144 | 1.87431 | 5605.4857 | 1.87479 | 5617.9709 |
| 1/2 | 1.87385 | 5593.7934 | 1.87434 | 5606.2656 | 1.87482 | 5618.7517 |
| 9/16 | 1.87388 | 5594.5725 | 1.87437 | 5607.0456 | 1.87485 | 5619.5326 |
| 5/8 | 1.87391 | 5595.3517 | 1.87440 | 5607.8256 | 1.87488 | 5620.3135 |
| 11/16 | 1.87394 | 5596.1309 | 1.87443 | 5608.6057 | 1.87491 | 5621.0944 |
| 3/4 | 1.87397 | 5596.9102 | 1.87446 | 5609.3859 | 1.87494 | 5621.8754 |
| 13/16 | 1.87400 | 5597.6895 | 1.87449 | 5610.1660 | 1.87497 | 5622.6565 |
| 7/8 | 1.87403 | 5598.4689 | 1.87452 | 5610.9463 | 1.87500 | 5623.4376 |
| 15/16 | 1.87406 | 5599.2483 | 1.87455 | 5611.7266 | 1.87503 | 5624.2188 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.87506 | 5625.0000 | 1.87554 | 5637.5069 | 1.87603 | 5650.0278 |
| 1/16 | 1.87509 | 5625.7813 | 1.87557 | 5638.2891 | 1.87606 | 5650.8108 |
| 1/8 | 1.87512 | 5626.5626 | 1.87560 | 5639.0713 | 1.87609 | 5651.5939 |
| 3/16 | 1.87515 | 5627.3440 | 1.87563 | 5639.8535 | 1.87612 | 5652.3770 |
| 1/4 | 1.87518 | 5628.1254 | 1.87566 | 5640.6359 | 1.87615 | 5653.1602 |
| 5/16 | 1.87521 | 5628.9069 | 1.87569 | 5641.4182 | 1.87618 | 5653.9434 |
| 3/8 | 1.87524 | 5629.6885 | 1.87572 | 5642.2006 | 1.87621 | 5654.7267 |
| 7/16 | 1.87527 | 5630.4701 | 1.87575 | 5642.9831 | 1.87624 | 5655.5100 |
| 1/2 | 1.87530 | 5631.2517 | 1.87578 | 5643.7656 | 1.87627 | 5656.2934 |
| 9/16 | 1.87533 | 5632.0334 | 1.87581 | 5644.5482 | 1.87630 | 5657.0769 |
| 5/8 | 1.87536 | 5632.8152 | 1.87584 | 5645.3308 | 1.87633 | 5657.8604 |
| 11/16 | 1.87539 | 5633.5970 | 1.87587 | 5646.1135 | 1.87636 | 5658.6439 |
| 3/4 | 1.87542 | 5634.3789 | 1.87590 | 5646.8963 | 1.87639 | 5659.4275 |
| 13/16 | 1.87545 | 5635.1608 | 1.87594 | 5647.6791 | 1.87642 | 5660.2112 |
| 7/8 | 1.87548 | 5635.9428 | 1.87597 | 5648.4619 | 1.87645 | 5660.9949 |
| 15/16 | 1.87551 | 5636.7249 | 1.87600 | 5649.2448 | 1.87648 | 5661.7787 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.87651 | 5662.5625 | 1.87699 | 5675.1111 | 1.87747 | 5687.6736 |
| 1/16 | 1.87654 | 5663.3464 | 1.87702 | 5675.8959 | 1.87750 | 5688.4592 |
| 1/8 | 1.87657 | 5664.1303 | 1.87705 | 5676.6807 | 1.87753 | 5689.2449 |
| 3/16 | 1.87660 | 5664.9143 | 1.87708 | 5677.4655 | 1.87756 | 5690.0306 |
| 1/4 | 1.87663 | 5665.6984 | 1.87711 | 5678.2504 | 1.87759 | 5690.8164 |
| 5/16 | 1.87666 | 5666.4824 | 1.87714 | 5679.0354 | 1.87762 | 5691.6022 |
| 3/8 | 1.87669 | 5667.2666 | 1.87717 | 5679.8204 | 1.87765 | 5692.3881 |
| 7/16 | 1.87672 | 5668.0508 | 1.87720 | 5680.6055 | 1.87768 | 5693.1741 |
| 1/2 | 1.87675 | 5668.8351 | 1.87723 | 5681.3906 | 1.87771 | 5693.9601 |
| 9/16 | 1.87678 | 5669.6194 | 1.87726 | 5682.1758 | 1.87774 | 5694.7461 |
| 5/8 | 1.87681 | 5670.4038 | 1.87729 | 5682.9610 | 1.87777 | 5695.5322 |
| 11/16 | 1.87684 | 5671.1882 | 1.87732 | 5683.7463 | 1.87780 | 5696.3184 |
| 3/4 | 1.87687 | 5671.9727 | 1.87735 | 5684.5317 | 1.87783 | 5697.1046 |
| 13/16 | 1.87690 | 5672.7572 | 1.87738 | 5685.3171 | 1.87786 | 5697.8909 |
| 7/8 | 1.87693 | 5673.5418 | 1.87741 | 5686.1025 | 1.87789 | 5698.6772 |
| 15/16 | 1.87696 | 5674.3264 | 1.87744 | 5686.8880 | 1.87792 | 5699.4636 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.87795 | 5700.2500 | 1.87843 | 5712.8403 | 1.87890 | 5725.4444 |
| 1/16 | 1.87798 | 5701.0365 | 1.87846 | 5713.6276 | 1.87893 | 5726.2327 |
| 1/8 | 1.87801 | 5701.8230 | 1.87849 | 5714.4150 | 1.87896 | 5727.0209 |
| 3/16 | 1.87804 | 5702.6096 | 1.87852 | 5715.2025 | 1.87899 | 5727.8093 |
| 1/4 | 1.87807 | 5703.3963 | 1.87855 | 5715.9900 | 1.87902 | 5728.5977 |
| 5/16 | 1.87810 | 5704.1830 | 1.87858 | 5716.7776 | 1.87905 | 5729.3861 |
| 3/8 | 1.87813 | 5704.9697 | 1.87861 | 5717.5652 | 1.87908 | 5730.1746 |
| 7/16 | 1.87816 | 5705.7565 | 1.87864 | 5718.3529 | 1.87911 | 5730.9631 |
| 1/2 | 1.87819 | 5706.5434 | 1.87867 | 5719.1406 | 1.87914 | 5731.7517 |
| 9/16 | 1.87822 | 5707.3303 | 1.87870 | 5719.9284 | 1.87917 | 5732.5404 |
| 5/8 | 1.87825 | 5708.1173 | 1.87873 | 5720.7163 | 1.87920 | 5733.3291 |
| 11/16 | 1.87828 | 5708.9043 | 1.87876 | 5721.5042 | 1.87923 | 5734.1179 |
| 3/4 | 1.87831 | 5709.6914 | 1.87879 | 5722.2921 | 1.87926 | 5734.9067 |
| 13/16 | 1.87834 | 5710.4785 | 1.87881 | 5723.0801 | 1.87929 | 5735.6956 |
| 7/8 | 1.87837 | 5711.2657 | 1.87884 | 5723.8682 | 1.87932 | 5736.4845 |
| 15/16 | 1.87840 | 5712.0530 | 1.87887 | 5724.6563 | 1.87935 | 5737.2735 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.87938 | 5738.0625 | 1.87986 | 5750.6944 | 1.88034 | 5763.3403 |
| 1/16 | 1.87941 | 5738.8516 | 1.87989 | 5751.4844 | 1.88037 | 5764.1311 |
| 1/8 | 1.87944 | 5739.6407 | 1.87992 | 5752.2744 | 1.88040 | 5764.9220 |
| 3/16 | 1.87947 | 5740.4299 | 1.87995 | 5753.0645 | 1.88043 | 5765.7129 |
| 1/4 | 1.87950 | 5741.2192 | 1.87998 | 5753.8546 | 1.88046 | 5766.5039 |
| 5/16 | 1.87953 | 5742.0085 | 1.88001 | 5754.6448 | 1.88049 | 5767.2949 |
| 3/8 | 1.87956 | 5742.7979 | 1.88004 | 5755.4350 | 1.88052 | 5768.0860 |
| 7/16 | 1.87959 | 5743.5873 | 1.88007 | 5756.2253 | 1.88055 | 5768.8772 |
| 1/2 | 1.87962 | 5744.3767 | 1.88010 | 5757.0156 | 1.88058 | 5769.6684 |
| 9/16 | 1.87965 | 5745.1663 | 1.88013 | 5757.8060 | 1.88061 | 5770.4597 |
| 5/8 | 1.87968 | 5745.9558 | 1.88016 | 5758.5965 | 1.88063 | 5771.2510 |
| 11/16 | 1.87971 | 5746.7455 | 1.88019 | 5759.3870 | 1.88066 | 5772.0423 |
| 3/4 | 1.87974 | 5747.5352 | 1.88022 | 5760.1775 | 1.88069 | 5772.8338 |
| 13/16 | 1.87977 | 5748.3249 | 1.88025 | 5760.9681 | 1.88072 | 5773.6252 |
| 7/8 | 1.87980 | 5749.1147 | 1.88028 | 5761.7588 | 1.88075 | 5774.4168 |
| 15/16 | 1.87983 | 5749.9045 | 1.88031 | 5762.5495 | 1.88078 | 5775.2084 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.88081 | 5776.0000 | 1.88129 | 5788.6736 | 1.88176 | 5801.3611 |
| 1/16 | 1.88084 | 5776.7917 | 1.88132 | 5789.4662 | 1.88179 | 5802.1545 |
| 1/8 | 1.88087 | 5777.5834 | 1.88135 | 5790.2588 | 1.88182 | 5802.9480 |
| 3/16 | 1.88090 | 5778.3752 | 1.88138 | 5791.0515 | 1.88185 | 5803.7416 |
| 1/4 | 1.88093 | 5779.1671 | 1.88141 | 5791.8442 | 1.88188 | 5804.5352 |
| 5/16 | 1.88096 | 5779.9590 | 1.88144 | 5792.6370 | 1.88191 | 5805.3288 |
| 3/8 | 1.88099 | 5780.7510 | 1.88147 | 5793.4298 | 1.88194 | 5806.1225 |
| 7/16 | 1.88102 | 5781.5430 | 1.88150 | 5794.2227 | 1.88197 | 5806.9163 |
| 1/2 | 1.88105 | 5782.3351 | 1.88153 | 5795.0156 | 1.88200 | 5807.7101 |
| 9/16 | 1.88108 | 5783.1272 | 1.88156 | 5795.8086 | 1.88203 | 5808.5039 |
| 5/8 | 1.88111 | 5783.9194 | 1.88159 | 5796.6017 | 1.88206 | 5809.2979 |
| 11/16 | 1.88114 | 5784.7116 | 1.88162 | 5797.3948 | 1.88209 | 5810.0918 |
| 3/4 | 1.88117 | 5785.5039 | 1.88165 | 5798.1879 | 1.88212 | 5810.8859 |
| 13/16 | 1.88120 | 5786.2963 | 1.88168 | 5798.9811 | 1.88215 | 5811.6799 |
| 7/8 | 1.88123 | 5787.0887 | 1.88171 | 5799.7744 | 1.88218 | 5812.4741 |
| 15/16 | 1.88126 | 5787.8811 | 1.88174 | 5800.5677 | 1.88221 | 5813.2683 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.88224 | 5814.0625 | 1.88271 | 5826.7778 | 1.88319 | 5839.5069 |
| 1/16 | 1.88227 | 5814.8568 | 1.88274 | 5827.5729 | 1.88322 | 5840.3030 |
| 1/8 | 1.88230 | 5815.6512 | 1.88277 | 5828.3682 | 1.88325 | 5841.0991 |
| 3/16 | 1.88233 | 5816.4456 | 1.88280 | 5829.1634 | 1.88328 | 5841.8952 |
| 1/4 | 1.88236 | 5817.2400 | 1.88283 | 5829.9588 | 1.88331 | 5842.6914 |
| 5/16 | 1.88239 | 5818.0345 | 1.88286 | 5830.7542 | 1.88334 | 5843.4877 |
| 3/8 | 1.88242 | 5818.8291 | 1.88289 | 5831.5496 | 1.88337 | 5844.2840 |
| 7/16 | 1.88245 | 5819.6237 | 1.88292 | 5832.3451 | 1.88340 | 5845.0803 |
| 1/2 | 1.88248 | 5820.4184 | 1.88295 | 5833.1406 | 1.88342 | 5845.8767 |
| 9/16 | 1.88251 | 5821.2131 | 1.88298 | 5833.9362 | 1.88345 | 5846.6732 |
| 5/8 | 1.88254 | 5822.0079 | 1.88301 | 5834.7319 | 1.88348 | 5847.4697 |
| 11/16 | 1.88257 | 5822.8028 | 1.88304 | 5835.5276 | 1.88351 | 5848.2663 |
| 3/4 | 1.88260 | 5823.5977 | 1.88307 | 5836.3234 | 1.88354 | 5849.0629 |
| 13/16 | 1.88263 | 5824.3926 | 1.88310 | 5837.1192 | 1.88357 | 5849.8596 |
| 7/8 | 1.88265 | 5825.1876 | 1.88313 | 5837.9150 | 1.88360 | 5850.6564 |
| 15/16 | 1.88268 | 5825.9827 | 1.88316 | 5838.7110 | 1.88363 | 5851.4532 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.88366 | 5852.2500 | 1.88413 | 5865.0069 | 1.88461 | 5877.7778 |
| 1/16 | 1.88369 | 5853.0469 | 1.88416 | 5865.8047 | 1.88464 | 5878.5764 |
| 1/8 | 1.88372 | 5853.8439 | 1.88419 | 5866.6025 | 1.88467 | 5879.3751 |
| 3/16 | 1.88375 | 5854.6409 | 1.88422 | 5867.4004 | 1.88470 | 5880.1739 |
| 1/4 | 1.88378 | 5855.4379 | 1.88425 | 5868.1984 | 1.88472 | 5880.9727 |
| 5/16 | 1.88381 | 5856.2351 | 1.88428 | 5868.9963 | 1.88475 | 5881.7715 |
| 3/8 | 1.88384 | 5857.0322 | 1.88431 | 5869.7944 | 1.88478 | 5882.5704 |
| 7/16 | 1.88387 | 5857.8295 | 1.88434 | 5870.5925 | 1.88481 | 5883.3694 |
| 1/2 | 1.88390 | 5858.6267 | 1.88437 | 5871.3906 | 1.88484 | 5884.1684 |
| 9/16 | 1.88393 | 5859.4241 | 1.88440 | 5872.1888 | 1.88487 | 5884.9675 |
| 5/8 | 1.88396 | 5860.2215 | 1.88443 | 5872.9871 | 1.88490 | 5885.7666 |
| 11/16 | 1.88399 | 5861.0189 | 1.88446 | 5873.7854 | 1.88493 | 5886.5658 |
| 3/4 | 1.88402 | 5861.8164 | 1.88449 | 5874.5838 | 1.88496 | 5887.3650 |
| 13/16 | 1.88405 | 5862.6140 | 1.88452 | 5875.3822 | 1.88499 | 5888.1643 |
| 7/8 | 1.88408 | 5863.4116 | 1.88455 | 5876.1807 | 1.88502 | 5888.9637 |
| 15/16 | 1.88410 | 5864.2092 | 1.88458 | 5876.9792 | 1.88505 | 5889.7630 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.88508 | 5890.5625 | 1.88555 | 5903.3611 | 1.88602 | 5916.1736 |
| 1/16 | 1.88511 | 5891.3620 | 1.88558 | 5904.1615 | 1.88605 | 5916.9749 |
| 1/8 | 1.88514 | 5892.1616 | 1.88561 | 5904.9619 | 1.88608 | 5917.7762 |
| 3/16 | 1.88517 | 5892.9612 | 1.88564 | 5905.7624 | 1.88611 | 5918.5775 |
| 1/4 | 1.88520 | 5893.7609 | 1.88567 | 5906.5629 | 1.88614 | 5919.3789 |
| 5/16 | 1.88523 | 5894.5606 | 1.88570 | 5907.3635 | 1.88617 | 5920.1804 |
| 3/8 | 1.88526 | 5895.3604 | 1.88573 | 5908.1642 | 1.88620 | 5920.9819 |
| 7/16 | 1.88528 | 5896.1602 | 1.88576 | 5908.9649 | 1.88623 | 5921.7834 |
| 1/2 | 1.88531 | 5896.9601 | 1.88579 | 5909.7656 | 1.88626 | 5922.5851 |
| 9/16 | 1.88534 | 5897.7600 | 1.88581 | 5910.5664 | 1.88629 | 5923.3867 |
| 5/8 | 1.88537 | 5898.5600 | 1.88584 | 5911.3673 | 1.88631 | 5924.1885 |
| 11/16 | 1.88540 | 5899.3601 | 1.88587 | 5912.1682 | 1.88634 | 5924.9903 |
| 3/4 | 1.88543 | 5900.1602 | 1.88590 | 5912.9692 | 1.88637 | 5925.7921 |
| 13/16 | 1.88546 | 5900.9603 | 1.88593 | 5913.7702 | 1.88640 | 5926.5940 |
| 7/8 | 1.88549 | 5901.7605 | 1.88596 | 5914.5713 | 1.88643 | 5927.3959 |
| 15/16 | 1.88552 | 5902.5608 | 1.88599 | 5915.3724 | 1.88646 | 5928.1979 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.88649 | 5929.0000 | 1.88696 | 5941.8403 | 1.88743 | 5954.6944 |
| 1/16 | 1.88652 | 5929.8021 | 1.88699 | 5942.6433 | 1.88746 | 5955.4983 |
| 1/8 | 1.88655 | 5930.6043 | 1.88702 | 5943.4463 | 1.88749 | 5956.3022 |
| 3/16 | 1.88658 | 5931.4065 | 1.88705 | 5944.2494 | 1.88752 | 5957.1061 |
| 1/4 | 1.88661 | 5932.2088 | 1.88708 | 5945.0525 | 1.88755 | 5957.9102 |
| 5/16 | 1.88664 | 5933.0111 | 1.88711 | 5945.8557 | 1.88758 | 5958.7142 |
| 3/8 | 1.88667 | 5933.8135 | 1.88714 | 5946.6590 | 1.88761 | 5959.5183 |
| 7/16 | 1.88670 | 5934.6159 | 1.88717 | 5947.4623 | 1.88763 | 5960.3225 |
| 1/2 | 1.88673 | 5935.4184 | 1.88720 | 5948.2656 | 1.88766 | 5961.1267 |
| 9/16 | 1.88676 | 5936.2209 | 1.88722 | 5949.0690 | 1.88769 | 5961.9310 |
| 5/8 | 1.88678 | 5937.0235 | 1.88725 | 5949.8725 | 1.88772 | 5962.7354 |
| 11/16 | 1.88681 | 5937.8262 | 1.88728 | 5950.6760 | 1.88775 | 5963.5397 |
| 3/4 | 1.88684 | 5938.6289 | 1.88731 | 5951.4796 | 1.88778 | 5964.3442 |
| 13/16 | 1.88687 | 5939.4317 | 1.88734 | 5952.2832 | 1.88781 | 5965.1487 |
| 7/8 | 1.88690 | 5940.2345 | 1.88737 | 5953.0869 | 1.88784 | 5965.9532 |
| 15/16 | 1.88693 | 5941.0374 | 1.88740 | 5953.8907 | 1.88787 | 5966.7578 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.88790 | 5967.5625 | 1.88837 | 5980.4444 | 1.88883 | 5993.3403 |
| 1/16 | 1.88793 | 5968.3672 | 1.88840 | 5981.2500 | 1.88886 | 5994.1467 |
| 1/8 | 1.88796 | 5969.1720 | 1.88843 | 5982.0557 | 1.88889 | 5994.9532 |
| 3/16 | 1.88799 | 5969.9768 | 1.88845 | 5982.8614 | 1.88892 | 5995.7598 |
| 1/4 | 1.88802 | 5970.7817 | 1.88848 | 5983.6671 | 1.88895 | 5996.5664 |
| 5/16 | 1.88804 | 5971.5866 | 1.88851 | 5984.4729 | 1.88898 | 5997.3731 |
| 3/8 | 1.88807 | 5972.3916 | 1.88854 | 5985.2788 | 1.88901 | 5998.1798 |
| 7/16 | 1.88810 | 5973.1966 | 1.88857 | 5986.0847 | 1.88904 | 5998.9866 |
| 1/2 | 1.88813 | 5974.0017 | 1.88860 | 5986.8906 | 1.88907 | 5999.7934 |
| 9/16 | 1.88816 | 5974.8069 | 1.88863 | 5987.6966 | 1.88910 | 6000.6003 |
| 5/8 | 1.88819 | 5975.6121 | 1.88866 | 5988.5027 | 1.88913 | 6001.4072 |
| 11/16 | 1.88822 | 5976.4173 | 1.88869 | 5989.3088 | 1.88916 | 6002.2142 |
| 3/4 | 1.88825 | 5977.2227 | 1.88872 | 5990.1150 | 1.88918 | 6003.0213 |
| 13/16 | 1.88828 | 5978.0280 | 1.88875 | 5990.9213 | 1.88921 | 6003.8284 |
| 7/8 | 1.88831 | 5978.8334 | 1.88878 | 5991.7275 | 1.88924 | 6004.6355 |
| 15/16 | 1.88834 | 5979.6389 | 1.88881 | 5992.5339 | 1.88927 | 6005.4427 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.88930 | 6006.2500 | 1.88977 | 6019.1736 | 1.89023 | 6032.1111 |
| 1/16 | 1.88933 | 6007.0573 | 1.88980 | 6019.9818 | 1.89026 | 6032.9202 |
| 1/8 | 1.88936 | 6007.8647 | 1.88983 | 6020.7900 | 1.89029 | 6033.7293 |
| 3/16 | 1.88939 | 6008.6721 | 1.88986 | 6021.5983 | 1.89032 | 6034.5384 |
| 1/4 | 1.88942 | 6009.4796 | 1.88989 | 6022.4067 | 1.89035 | 6035.3477 |
| 5/16 | 1.88945 | 6010.2871 | 1.88991 | 6023.2151 | 1.89038 | 6036.1569 |
| 3/8 | 1.88948 | 6011.0947 | 1.88994 | 6024.0235 | 1.89041 | 6036.9663 |
| 7/16 | 1.88951 | 6011.9024 | 1.88997 | 6024.8321 | 1.89044 | 6037.7756 |
| 1/2 | 1.88954 | 6012.7101 | 1.89000 | 6025.6406 | 1.89047 | 6038.5851 |
| 9/16 | 1.88956 | 6013.5178 | 1.89003 | 6026.4492 | 1.89050 | 6039.3946 |
| 5/8 | 1.88959 | 6014.3256 | 1.89006 | 6027.2579 | 1.89053 | 6040.2041 |
| 11/16 | 1.88962 | 6015.1335 | 1.89009 | 6028.0667 | 1.89055 | 6041.0137 |
| 3/4 | 1.88965 | 6015.9414 | 1.89012 | 6028.8754 | 1.89058 | 6041.8234 |
| 13/16 | 1.88968 | 6016.7494 | 1.89015 | 6029.6843 | 1.89061 | 6042.6331 |
| 7/8 | 1.88971 | 6017.5574 | 1.89018 | 6030.4932 | 1.89064 | 6043.4428 |
| 15/16 | 1.88974 | 6018.3655 | 1.89021 | 6031.3021 | 1.89067 | 6044.2526 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.89070 | 6045.0625 | 1.89117 | 6058.0278 | 1.89163 | 6071.0069 |
| 1/16 | 1.89073 | 6045.8724 | 1.89119 | 6058.8386 | 1.89166 | 6071.8186 |
| 1/8 | 1.89076 | 6046.6824 | 1.89122 | 6059.6494 | 1.89169 | 6072.6303 |
| 3/16 | 1.89079 | 6047.4924 | 1.89125 | 6060.4603 | 1.89172 | 6073.4421 |
| 1/4 | 1.89082 | 6048.3025 | 1.89128 | 6061.2713 | 1.89175 | 6074.2539 |
| 5/16 | 1.89085 | 6049.1127 | 1.89131 | 6062.0823 | 1.89178 | 6075.0658 |
| 3/8 | 1.89087 | 6049.9229 | 1.89134 | 6062.8933 | 1.89180 | 6075.8777 |
| 7/16 | 1.89090 | 6050.7331 | 1.89137 | 6063.7045 | 1.89183 | 6076.6897 |
| 1/2 | 1.89093 | 6051.5434 | 1.89140 | 6064.5156 | 1.89186 | 6077.5017 |
| 9/16 | 1.89096 | 6052.3538 | 1.89143 | 6065.3269 | 1.89189 | 6078.3138 |
| 5/8 | 1.89099 | 6053.1642 | 1.89146 | 6066.1381 | 1.89192 | 6079.1260 |
| 11/16 | 1.89102 | 6053.9746 | 1.89149 | 6066.9495 | 1.89195 | 6079.9382 |
| 3/4 | 1.89105 | 6054.7852 | 1.89151 | 6067.7609 | 1.89198 | 6080.7504 |
| 13/16 | 1.89108 | 6055.5957 | 1.89154 | 6068.5723 | 1.89201 | 6081.5627 |
| 7/8 | 1.89111 | 6056.4064 | 1.89157 | 6069.3838 | 1.89204 | 6082.3751 |
| 15/16 | 1.89114 | 6057.2170 | 1.89160 | 6070.1953 | 1.89207 | 6083.1875 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.89209 | 6084.0000 | 1.89256 | 6097.0069 | 1.89302 | 6110.0278 |
| 1/16 | 1.89212 | 6084.8125 | 1.89259 | 6097.8203 | 1.89305 | 6110.8420 |
| 1/8 | 1.89215 | 6085.6251 | 1.89262 | 6098.6338 | 1.89308 | 6111.6564 |
| 3/16 | 1.89218 | 6086.4377 | 1.89265 | 6099.4473 | 1.89311 | 6112.4707 |
| 1/4 | 1.89221 | 6087.2504 | 1.89267 | 6100.2609 | 1.89314 | 6113.2852 |
| 5/16 | 1.89224 | 6088.0632 | 1.89270 | 6101.0745 | 1.89317 | 6114.0996 |
| 3/8 | 1.89227 | 6088.8760 | 1.89273 | 6101.8881 | 1.89320 | 6114.9142 |
| 7/16 | 1.89230 | 6089.6888 | 1.89276 | 6102.7019 | 1.89322 | 6115.7288 |
| 1/2 | 1.89233 | 6090.5017 | 1.89279 | 6103.5156 | 1.89325 | 6116.5434 |
| 9/16 | 1.89236 | 6091.3147 | 1.89282 | 6104.3295 | 1.89328 | 6117.3581 |
| 5/8 | 1.89238 | 6092.1277 | 1.89285 | 6105.1433 | 1.89331 | 6118.1729 |
| 11/16 | 1.89241 | 6092.9408 | 1.89288 | 6105.9573 | 1.89334 | 6118.9877 |
| 3/4 | 1.89244 | 6093.7539 | 1.89291 | 6106.7713 | 1.89337 | 6119.8025 |
| 13/16 | 1.89247 | 6094.5671 | 1.89293 | 6107.5853 | 1.89340 | 6120.6174 |
| 7/8 | 1.89250 | 6095.3803 | 1.89296 | 6108.3994 | 1.89343 | 6121.4324 |
| 15/16 | 1.89253 | 6096.1936 | 1.89299 | 6109.2136 | 1.89346 | 6122.2474 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.89348 | 6123.0625 | 1.89395 | 6136.1111 | 1.89441 | 6149.1736 |
| 1/16 | 1.89351 | 6123.8776 | 1.89398 | 6136.9271 | 1.89444 | 6149.9905 |
| 1/8 | 1.89354 | 6124.6928 | 1.89400 | 6137.7432 | 1.89447 | 6150.8074 |
| 3/16 | 1.89357 | 6125.5081 | 1.89403 | 6138.5593 | 1.89449 | 6151.6244 |
| 1/4 | 1.89360 | 6126.3234 | 1.89406 | 6139.3754 | 1.89452 | 6152.4414 |
| 5/16 | 1.89363 | 6127.1387 | 1.89409 | 6140.1917 | 1.89455 | 6153.2585 |
| 3/8 | 1.89366 | 6127.9541 | 1.89412 | 6141.0079 | 1.89458 | 6154.0756 |
| 7/16 | 1.89369 | 6128.7696 | 1.89415 | 6141.8242 | 1.89461 | 6154.8928 |
| 1/2 | 1.89372 | 6129.5851 | 1.89418 | 6142.6406 | 1.89464 | 6155.7101 |
| 9/16 | 1.89374 | 6130.4006 | 1.89421 | 6143.4571 | 1.89467 | 6156.5274 |
| 5/8 | 1.89377 | 6131.2163 | 1.89424 | 6144.2735 | 1.89470 | 6157.3447 |
| 11/16 | 1.89380 | 6132.0319 | 1.89426 | 6145.0901 | 1.89473 | 6158.1621 |
| 3/4 | 1.89383 | 6132.8477 | 1.89429 | 6145.9067 | 1.89475 | 6158.9796 |
| 13/16 | 1.89386 | 6133.6634 | 1.89432 | 6146.7233 | 1.89478 | 6159.7971 |
| 7/8 | 1.89389 | 6134.4793 | 1.89435 | 6147.5400 | 1.89481 | 6160.6147 |
| 15/16 | 1.89392 | 6135.2952 | 1.89438 | 6148.3568 | 1.89484 | 6161.4323 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.89487 | 6162.2500 | 1.89533 | 6175.3403 | 1.89579 | 6188.4444 |
| 1/16 | 1.89490 | 6163.0677 | 1.89536 | 6176.1589 | 1.89582 | 6189.2639 |
| 1/8 | 1.89493 | 6163.8855 | 1.89539 | 6176.9775 | 1.89585 | 6190.0834 |
| 3/16 | 1.89496 | 6164.7034 | 1.89542 | 6177.7963 | 1.89588 | 6190.9030 |
| 1/4 | 1.89498 | 6165.5213 | 1.89545 | 6178.6150 | 1.89591 | 6191.7227 |
| 5/16 | 1.89501 | 6166.3392 | 1.89547 | 6179.4338 | 1.89593 | 6192.5423 |
| 3/8 | 1.89504 | 6167.1572 | 1.89550 | 6180.2527 | 1.89596 | 6193.3621 |
| 7/16 | 1.89507 | 6167.9753 | 1.89553 | 6181.0716 | 1.89599 | 6194.1819 |
| 1/2 | 1.89510 | 6168.7934 | 1.89556 | 6181.8906 | 1.89602 | 6195.0017 |
| 9/16 | 1.89513 | 6169.6116 | 1.89559 | 6182.7097 | 1.89605 | 6195.8216 |
| 5/8 | 1.89516 | 6170.4298 | 1.89562 | 6183.5288 | 1.89608 | 6196.6416 |
| 11/16 | 1.89519 | 6171.2481 | 1.89565 | 6184.3479 | 1.89611 | 6197.4616 |
| 3/4 | 1.89522 | 6172.0664 | 1.89568 | 6185.1671 | 1.89614 | 6198.2817 |
| 13/16 | 1.89524 | 6172.8848 | 1.89570 | 6185.9864 | 1.89616 | 6199.1018 |
| 7/8 | 1.89527 | 6173.7032 | 1.89573 | 6186.8057 | 1.89619 | 6199.9220 |
| 15/16 | 1.89530 | 6174.5217 | 1.89576 | 6187.6250 | 1.89622 | 6200.7422 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.89625 | 6201.5625 | 1.89671 | 6214.6944 | 1.89717 | 6227.8403 |
| 1/16 | 1.89628 | 6202.3828 | 1.89674 | 6215.5157 | 1.89720 | 6228.6624 |
| 1/8 | 1.89631 | 6203.2032 | 1.89677 | 6216.3369 | 1.89723 | 6229.4845 |
| 3/16 | 1.89634 | 6204.0237 | 1.89680 | 6217.1582 | 1.89725 | 6230.3067 |
| 1/4 | 1.89637 | 6204.8442 | 1.89682 | 6217.9796 | 1.89728 | 6231.1289 |
| 5/16 | 1.89639 | 6205.6647 | 1.89685 | 6218.8010 | 1.89731 | 6231.9512 |
| 3/8 | 1.89642 | 6206.4854 | 1.89688 | 6219.6225 | 1.89734 | 6232.7735 |
| 7/16 | 1.89645 | 6207.3060 | 1.89691 | 6220.4440 | 1.89737 | 6233.5959 |
| 1/2 | 1.89648 | 6208.1267 | 1.89694 | 6221.2656 | 1.89740 | 6234.4184 |
| 9/16 | 1.89651 | 6208.9475 | 1.89697 | 6222.0873 | 1.89743 | 6235.2409 |
| 5/8 | 1.89654 | 6209.7683 | 1.89700 | 6222.9090 | 1.89746 | 6236.0635 |
| 11/16 | 1.89657 | 6210.5892 | 1.89703 | 6223.7307 | 1.89748 | 6236.8861 |
| 3/4 | 1.89660 | 6211.4102 | 1.89705 | 6224.5525 | 1.89751 | 6237.7088 |
| 13/16 | 1.89662 | 6212.2311 | 1.89708 | 6225.3744 | 1.89754 | 6238.5315 |
| 7/8 | 1.89665 | 6213.0522 | 1.89711 | 6226.1963 | 1.89757 | 6239.3543 |
| 15/16 | 1.89668 | 6213.8733 | 1.89714 | 6227.0183 | 1.89760 | 6240.1771 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.89763 | 6241.0000 | 1.89808 | 6254.1736 | 1.89854 | 6267.3611 |
| 1/16 | 1.89766 | 6241.8229 | 1.89811 | 6254.9974 | 1.89857 | 6268.1858 |
| 1/8 | 1.89768 | 6242.6459 | 1.89814 | 6255.8213 | 1.89860 | 6269.0105 |
| 3/16 | 1.89771 | 6243.4690 | 1.89817 | 6256.6452 | 1.89863 | 6269.8353 |
| 1/4 | 1.89774 | 6244.2921 | 1.89820 | 6257.4692 | 1.89866 | 6270.6602 |
| 5/16 | 1.89777 | 6245.1153 | 1.89823 | 6258.2932 | 1.89869 | 6271.4851 |
| 3/8 | 1.89780 | 6245.9385 | 1.89826 | 6259.1173 | 1.89871 | 6272.3100 |
| 7/16 | 1.89783 | 6246.7617 | 1.89829 | 6259.9414 | 1.89874 | 6273.1350 |
| 1/2 | 1.89786 | 6247.5851 | 1.89831 | 6260.7656 | 1.89877 | 6273.9601 |
| 9/16 | 1.89788 | 6248.4084 | 1.89834 | 6261.5899 | 1.89880 | 6274.7852 |
| 5/8 | 1.89791 | 6249.2319 | 1.89837 | 6262.4142 | 1.89883 | 6275.6104 |
| 11/16 | 1.89794 | 6250.0554 | 1.89840 | 6263.2385 | 1.89886 | 6276.4356 |
| 3/4 | 1.89797 | 6250.8789 | 1.89843 | 6264.0629 | 1.89889 | 6277.2609 |
| 13/16 | 1.89800 | 6251.7025 | 1.89846 | 6264.8874 | 1.89891 | 6278.0862 |
| 7/8 | 1.89803 | 6252.5262 | 1.89849 | 6265.7119 | 1.89894 | 6278.9116 |
| 15/16 | 1.89806 | 6253.3499 | 1.89851 | 6266.5365 | 1.89897 | 6279.7370 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.89900 | 6280.5625 | 1.89946 | 6293.7778 | 1.89991 | 6307.0069 |
| 1/16 | 1.89903 | 6281.3880 | 1.89948 | 6294.6042 | 1.89994 | 6307.8342 |
| 1/8 | 1.89906 | 6282.2137 | 1.89951 | 6295.4307 | 1.89997 | 6308.6616 |
| 3/16 | 1.89908 | 6283.0393 | 1.89954 | 6296.2572 | 1.90000 | 6309.4890 |
| 1/4 | 1.89911 | 6283.8650 | 1.89957 | 6297.0838 | 1.90003 | 6310.3164 |
| 5/16 | 1.89914 | 6284.6908 | 1.89960 | 6297.9104 | 1.90005 | 6311.1439 |
| 3/8 | 1.89917 | 6285.5166 | 1.89963 | 6298.7371 | 1.90008 | 6311.9715 |
| 7/16 | 1.89920 | 6286.3425 | 1.89966 | 6299.5638 | 1.90011 | 6312.7991 |
| 1/2 | 1.89923 | 6287.1684 | 1.89968 | 6300.3906 | 1.90014 | 6313.6267 |
| 9/16 | 1.89926 | 6287.9944 | 1.89971 | 6301.2175 | 1.90017 | 6314.4545 |
| 5/8 | 1.89928 | 6288.8204 | 1.89974 | 6302.0444 | 1.90020 | 6315.2822 |
| 11/16 | 1.89931 | 6289.6465 | 1.89977 | 6302.8713 | 1.90022 | 6316.1101 |
| 3/4 | 1.89934 | 6290.4727 | 1.89980 | 6303.6984 | 1.90025 | 6316.9379 |
| 13/16 | 1.89937 | 6291.2989 | 1.89983 | 6304.5254 | 1.90028 | 6317.7659 |
| 7/8 | 1.89940 | 6292.1251 | 1.89985 | 6305.3525 | 1.90031 | 6318.5939 |
| 15/16 | 1.89943 | 6292.9514 | 1.89988 | 6306.1797 | 1.90034 | 6319.4219 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.90037 | 6320.2500 | 1.90082 | 6333.5069 | 1.90128 | 6346.7778 |
| 1/16 | 1.90040 | 6321.0782 | 1.90085 | 6334.3360 | 1.90131 | 6347.6077 |
| 1/8 | 1.90042 | 6321.9064 | 1.90088 | 6335.1650 | 1.90133 | 6348.4376 |
| 3/16 | 1.90045 | 6322.7346 | 1.90091 | 6335.9942 | 1.90136 | 6349.2676 |
| 1/4 | 1.90048 | 6323.5629 | 1.90094 | 6336.8234 | 1.90139 | 6350.0977 |
| 5/16 | 1.90051 | 6324.3913 | 1.90096 | 6337.6526 | 1.90142 | 6350.9278 |
| 3/8 | 1.90054 | 6325.2197 | 1.90099 | 6338.4819 | 1.90145 | 6351.7579 |
| 7/16 | 1.90057 | 6326.0482 | 1.90102 | 6339.3112 | 1.90148 | 6352.5881 |
| 1/2 | 1.90059 | 6326.8767 | 1.90105 | 6340.1406 | 1.90150 | 6353.4184 |
| 9/16 | 1.90062 | 6327.7053 | 1.90108 | 6340.9701 | 1.90153 | 6354.2487 |
| 5/8 | 1.90065 | 6328.5340 | 1.90111 | 6341.7996 | 1.90156 | 6355.0791 |
| 11/16 | 1.90068 | 6329.3627 | 1.90113 | 6342.6292 | 1.90159 | 6355.9095 |
| 3/4 | 1.90071 | 6330.1914 | 1.90116 | 6343.4588 | 1.90162 | 6356.7400 |
| 13/16 | 1.90074 | 6331.0202 | 1.90119 | 6344.2884 | 1.90165 | 6357.5706 |
| 7/8 | 1.90077 | 6331.8491 | 1.90122 | 6345.1182 | 1.90167 | 6358.4012 |
| 15/16 | 1.90079 | 6332.6780 | 1.90125 | 6345.9479 | 1.90170 | 6359.2318 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.90173 | 6360.0625 | 1.90218 | 6373.3611 | 1.90264 | 6386.6736 |
| 1/16 | 1.90176 | 6360.8933 | 1.90221 | 6374.1927 | 1.90267 | 6387.5061 |
| 1/8 | 1.90179 | 6361.7241 | 1.90224 | 6375.0244 | 1.90269 | 6388.3387 |
| 3/16 | 1.90182 | 6362.5549 | 1.90227 | 6375.8561 | 1.90272 | 6389.1713 |
| 1/4 | 1.90184 | 6363.3859 | 1.90230 | 6376.6879 | 1.90275 | 6390.0039 |
| 5/16 | 1.90187 | 6364.2168 | 1.90233 | 6377.5198 | 1.90278 | 6390.8366 |
| 3/8 | 1.90190 | 6365.0479 | 1.90235 | 6378.3517 | 1.90281 | 6391.6694 |
| 7/16 | 1.90193 | 6365.8789 | 1.90238 | 6379.1836 | 1.90284 | 6392.5022 |
| 1/2 | 1.90196 | 6366.7101 | 1.90241 | 6380.0156 | 1.90286 | 6393.3351 |
| 9/16 | 1.90199 | 6367.5413 | 1.90244 | 6380.8477 | 1.90289 | 6394.1680 |
| 5/8 | 1.90201 | 6368.3725 | 1.90247 | 6381.6798 | 1.90292 | 6395.0010 |
| 11/16 | 1.90204 | 6369.2038 | 1.90250 | 6382.5120 | 1.90295 | 6395.8340 |
| 3/4 | 1.90207 | 6370.0352 | 1.90252 | 6383.3442 | 1.90298 | 6396.6671 |
| 13/16 | 1.90210 | 6370.8666 | 1.90255 | 6384.1765 | 1.90301 | 6397.5002 |
| 7/8 | 1.90213 | 6371.6980 | 1.90258 | 6385.0088 | 1.90303 | 6398.3334 |
| 15/16 | 1.90216 | 6372.5295 | 1.90261 | 6385.8412 | 1.90306 | 6399.1667 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.90309 | 6400.0000 | 1.90354 | 6413.3403 | 1.90399 | 6426.6944 |
| 1/16 | 1.90312 | 6400.8334 | 1.90357 | 6414.1745 | 1.90402 | 6427.5295 |
| 1/8 | 1.90315 | 6401.6668 | 1.90360 | 6415.0088 | 1.90405 | 6428.3647 |
| 3/16 | 1.90317 | 6402.5002 | 1.90363 | 6415.8431 | 1.90408 | 6429.1999 |
| 1/4 | 1.90320 | 6403.3338 | 1.90366 | 6416.6775 | 1.90411 | 6430.0352 |
| 5/16 | 1.90323 | 6404.1673 | 1.90368 | 6417.5120 | 1.90413 | 6430.8705 |
| 3/8 | 1.90326 | 6405.0010 | 1.90371 | 6418.3465 | 1.90416 | 6431.7058 |
| 7/16 | 1.90329 | 6405.8347 | 1.90374 | 6419.1810 | 1.90419 | 6432.5413 |
| 1/2 | 1.90332 | 6406.6684 | 1.90377 | 6420.0156 | 1.90422 | 6433.3767 |
| 9/16 | 1.90334 | 6407.5022 | 1.90380 | 6420.8503 | 1.90425 | 6434.2123 |
| 5/8 | 1.90337 | 6408.3360 | 1.90382 | 6421.6850 | 1.90428 | 6435.0479 |
| 11/16 | 1.90340 | 6409.1699 | 1.90385 | 6422.5198 | 1.90430 | 6435.8835 |
| 3/4 | 1.90343 | 6410.0039 | 1.90388 | 6423.3546 | 1.90433 | 6436.7192 |
| 13/16 | 1.90346 | 6410.8379 | 1.90391 | 6424.1895 | 1.90436 | 6437.5549 |
| 7/8 | 1.90349 | 6411.6720 | 1.90394 | 6425.0244 | 1.90439 | 6438.3907 |
| 15/16 | 1.90351 | 6412.5061 | 1.90397 | 6425.8594 | 1.90442 | 6439.2266 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.90445 | 6440.0625 | 1.90490 | 6453.4444 | 1.90535 | 6466.8403 |
| 1/16 | 1.90447 | 6440.8985 | 1.90492 | 6454.2813 | 1.90537 | 6467.6780 |
| 1/8 | 1.90450 | 6441.7345 | 1.90495 | 6455.1182 | 1.90540 | 6468.5157 |
| 3/16 | 1.90453 | 6442.5706 | 1.90498 | 6455.9551 | 1.90543 | 6469.3535 |
| 1/4 | 1.90456 | 6443.4067 | 1.90501 | 6456.7921 | 1.90546 | 6470.1914 |
| 5/16 | 1.90459 | 6444.2429 | 1.90504 | 6457.6292 | 1.90549 | 6471.0293 |
| 3/8 | 1.90461 | 6445.0791 | 1.90506 | 6458.4663 | 1.90551 | 6471.8673 |
| 7/16 | 1.90464 | 6445.9154 | 1.90509 | 6459.3034 | 1.90554 | 6472.7053 |
| 1/2 | 1.90467 | 6446.7517 | 1.90512 | 6460.1406 | 1.90557 | 6473.5434 |
| 9/16 | 1.90470 | 6447.5881 | 1.90515 | 6460.9779 | 1.90560 | 6474.3815 |
| 5/8 | 1.90473 | 6448.4246 | 1.90518 | 6461.8152 | 1.90563 | 6475.2197 |
| 11/16 | 1.90475 | 6449.2611 | 1.90521 | 6462.6526 | 1.90566 | 6476.0580 |
| 3/4 | 1.90478 | 6450.0977 | 1.90523 | 6463.4900 | 1.90568 | 6476.8963 |
| 13/16 | 1.90481 | 6450.9343 | 1.90526 | 6464.3275 | 1.90571 | 6477.7346 |
| 7/8 | 1.90484 | 6451.7709 | 1.90529 | 6465.1650 | 1.90574 | 6478.5730 |
| 15/16 | 1.90487 | 6452.6077 | 1.90532 | 6466.0026 | 1.90577 | 6479.4115 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.90580 | 6480.2500 | 1.90625 | 6493.6736 | 1.90669 | 6507.1111 |
| 1/16 | 1.90582 | 6481.0886 | 1.90627 | 6494.5130 | 1.90672 | 6507.9514 |
| 1/8 | 1.90585 | 6481.9272 | 1.90630 | 6495.3525 | 1.90675 | 6508.7918 |
| 3/16 | 1.90588 | 6482.7659 | 1.90633 | 6496.1921 | 1 90678 | 6509.6322 |
| 1/4 | 1.90591 | 6483.6046 | 1.90636 | 6497.0317 | 1 90681 | 6510.4727 |
| 5/16 | 1.90594 | 6484.4434 | 1.90639 | 6497.8713 | 1 90683 | 6511.3132 |
| 3/8 | 1.90596 | 6485.2822 | 1.90641 | 6498.7110 | 1.90686 | 6512.1538 |
| 7/16 | 1.90599 | 6486.1211 | 1.90644 | 6499.5508 | 1.90689 | 6512.9944 |
| 1/2 | 1.90602 | 6486.9601 | 1.90647 | 6500.3906 | 1.90692 | 6513.8351 |
| 9/16 | 1.90605 | 6487.7991 | 1.90650 | 6501.2305 | 1.90695 | 6514.6758 |
| 5/8 | 1.90608 | 6488.6381 | 1.90653 | 6502.0704 | 1.90697 | 6515.5166 |
| 11/16 | 1.90610 | 6489.4772 | 1.90655 | 6502.9104 | 1.90700 | 6516.3574 |
| 3/4 | 1.90613 | 6490.3164 | 1.90658 | 6503.7504 | 1.90703 | 6517.1984 |
| 13/16 | 1.90616 | 6491.1556 | 1.90661 | 6504.5905 | 1.90706 | 6518.0393 |
| 7/8 | 1.90619 | 6491.9949 | 1.90664 | 6505.4307 | 1.90709 | 6518.8803 |
| 15/16 | 1.90622 | 6492.8342 | 1.90667 | 6506.2709 | 1.90711 | 6519.7214 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.90714 | 6520.5625 | 1.90759 | 6534.0278 | 1.90804 | 6547.5069 |
| 1/16 | 1.90717 | 6521.4037 | 1.90762 | 6534.8698 | 1.90807 | 6548.3499 |
| 1/8 | 1.90720 | 6522.2449 | 1.90765 | 6535.7119 | 1.90809 | 6549.1928 |
| 3/16 | 1.90723 | 6523.0862 | 1.90767 | 6536.5541 | 1.90812 | 6550.0358 |
| 1/4 | 1.90725 | 6523.9275 | 1.90770 | 6537.3963 | 1.90815 | 6550.8789 |
| 5/16 | 1.90728 | 6524.7689 | 1.90773 | 6538.2385 | 1.90818 | 6551.7220 |
| 3/8 | 1.90731 | 6525.6104 | 1.90776 | 6539.0808 | 1.90821 | 6552.5652 |
| 7/16 | 1.90734 | 6526.4519 | 1.90779 | 6539.9232 | 1.90823 | 6553.4084 |
| 1/2 | 1.90737 | 6527.2934 | 1.90781 | 6540.7656 | 1.90826 | 6554.2517 |
| 9/16 | 1.90739 | 6528.1350 | 1.90784 | 6541.6081 | 1.90829 | 6555.0951 |
| 5/8 | 1.90742 | 6528.9767 | 1.90787 | 6542.4506 | 1.90832 | 6555.9385 |
| 11/16 | 1.90745 | 6529.8184 | 1.90790 | 6543.2932 | 1.90835 | 6556.7819 |
| 3/4 | 1.90748 | 6530.6602 | 1.90793 | 6544.1359 | 1.90837 | 6557.6254 |
| 13/16 | 1.90751 | 6531.5020 | 1.90795 | 6544.9785 | 1.90840 | 6558.4690 |
| 7/8 | 1.90753 | 6532.3439 | 1.90798 | 6545.8213 | 1.90843 | 6559.3126 |
| 15/16 | 1.90756 | 6533.1858 | 1.90801 | 6546.6641 | 1.90846 | 6560.1563 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.90849 | 6561.0000 | 1.90893 | 6574.5069 | 1.90938 | 6588.0278 |
| 1/16 | 1.90851 | 6561.8438 | 1.90896 | 6575.3516 | 1.90941 | 6588.8733 |
| 1/8 | 1.90854 | 6562.6876 | 1.90899 | 6576.1963 | 1.90943 | 6589.7189 |
| 3/16 | 1.90857 | 6563.5315 | 1.90902 | 6577.0410 | 1.90946 | 6590.5645 |
| 1/4 | 1.90860 | 6564.3754 | 1.90904 | 6577.8859 | 1.90949 | 6591.4102 |
| 5/16 | 1.90862 | 6565.2194 | 1.90907 | 6578.7307 | 1.90952 | 6592.2559 |
| 3/8 | 1.90865 | 6566.0635 | 1.90910 | 6579.5756 | 1.90954 | 6593.1017 |
| 7/16 | 1.90868 | 6566.9076 | 1.90913 | 6580.4206 | 1.90957 | 6593.9475 |
| 1/2 | 1.90871 | 6567.7517 | 1.90915 | 6581.2656 | 1.90960 | 6594.7934 |
| 9/16 | 1.90874 | 6568.5959 | 1.90918 | 6582.1107 | 1.90963 | 6595.6394 |
| 5/8 | 1.90876 | 6569.4402 | 1.90921 | 6582.9558 | 1.90966 | 6596.4854 |
| 11/16 | 1.90879 | 6570.2845 | 1.90924 | 6583.8010 | 1.90968 | 6597.3314 |
| 3/4 | 1.90882 | 6571.1289 | 1.90927 | 6584.6463 | 1.90971 | 6598.1775 |
| 13/16 | 1.90885 | 6571.9733 | 1.90929 | 6585.4916 | 1.90974 | 6599.0237 |
| 7/8 | 1.90888 | 6572.8178 | 1.90932 | 6586.3369 | 1.90977 | 6599.8699 |
| 15/16 | 1.90890 | 6573.6624 | 1.90935 | 6587.1823 | 1.90980 | 6600.7162 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.90982 | 6601.5625 | 1.91027 | 6615.1111 | 1.91071 | 6628.6736 |
| 1/16 | 1.90985 | 6602.4089 | 1.91030 | 6615.9584 | 1.91074 | 6629.5217 |
| 1/8 | 1.90988 | 6603.2553 | 1.91032 | 6616.8057 | 1.91077 | 6630.3699 |
| 3/16 | 1.90991 | 6604.1018 | 1.91035 | 6617.6530 | 1.91080 | 6631.2181 |
| 1/4 | 1.90993 | 6604.9484 | 1.91038 | 6618.5004 | 1.91082 | 6632.0664 |
| 5/16 | 1.90996 | 6605.7949 | 1.91041 | 6619.3479 | 1.91085 | 6632.9147 |
| 3/8 | 1.90999 | 6606.6416 | 1.91044 | 6620.1954 | 1.91088 | 6633.7631 |
| 7/16 | 1.91002 | 6607.4883 | 1.91046 | 6621.0430 | 1.91091 | 6634.6116 |
| 1/2 | 1.91005 | 6608.3351 | 1.91049 | 6621.8906 | 1.91094 | 6635.4601 |
| 9/16 | 1.91007 | 6609.1819 | 1.91052 | 6622.7383 | 1.91096 | 6636.3086 |
| 5/8 | 1.91010 | 6610.0288 | 1.91055 | 6623.5860 | 1.91099 | 6637.1572 |
| 11/16 | 1.91013 | 6610.8757 | 1.91057 | 6624.4338 | 1.91102 | 6638.0059 |
| 3/4 | 1.91016 | 6611.7227 | 1.91060 | 6625.2817 | 1.91105 | 6638.8546 |
| 13/16 | 1.91019 | 6612.5697 | 1.91063 | 6626.1296 | 1.91107 | 6639.7034 |
| 7/8 | 1.91021 | 6613.4168 | 1.91066 | 6626.9775 | 1.91110 | 6640.5522 |
| 15/16 | 1.91024 | 6614.2639 | 1.91069 | 6627.8255 | 1.91113 | 6641.4011 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.91116 | 6642.2500 | 1.91160 | 6655.8403 | 1.91204 | 6669.4444 |
| 1/16 | 1.91119 | 6643.0990 | 1.91163 | 6656.6901 | 1.91207 | 6670.2952 |
| 1/8 | 1.91121 | 6643.9480 | 1.91166 | 6657.5400 | 1.91210 | 6671.1459 |
| 3/16 | 1.91124 | 6644.7971 | 1.91168 | 6658.3900 | 1.91213 | 6671.9968 |
| 1/4 | 1.91127 | 6645.6463 | 1.91171 | 6659.2400 | 1.91216 | 6672.8477 |
| 5/16 | 1.91130 | 6646.4955 | 1.91174 | 6660.0901 | 1.91218 | 6673.6986 |
| 3/8 | 1.91132 | 6647.3447 | 1.91177 | 6660.9402 | 1.91221 | 6674.5496 |
| 7/16 | 1.91135 | 6648.1940 | 1.91180 | 6661.7904 | 1.91224 | 6675.4006 |
| 1/2 | 1.91138 | 6649.0434 | 1.91182 | 6662.6406 | 1.91227 | 6676.2517 |
| 9/16 | 1.91141 | 6649.8928 | 1.91185 | 6663.4909 | 1.91229 | 6677.1029 |
| 5/8 | 1.91144 | 6650.7423 | 1.91188 | 6664.3413 | 1.91232 | 6677.9541 |
| 11/16 | 1.91146 | 6651.5918 | 1.91191 | 6665.1917 | 1.91235 | 6678.8054 |
| 3/4 | 1.91149 | 6652.4414 | 1.91193 | 6666.0421 | 1.91238 | 6679.6567 |
| 13/16 | 1.91152 | 6653.2910 | 1.91196 | 6666.8926 | 1.91240 | 6680.5081 |
| 7/8 | 1.91155 | 6654.1407 | 1.91199 | 6667.7432 | 1.91243 | 6681.3595 |
| 15/16 | 1.91157 | 6654.9905 | 1.91202 | 6668.5938 | 1.91246 | 6682.2110 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.91249 | 6683.0625 | 1.91293 | 6696.6944 | 1.91337 | 6710.3403 |
| 1/16 | 1.91252 | 6683.9141 | 1.91296 | 6697.5469 | 1.91340 | 6711.1936 |
| 1/8 | 1.91254 | 6684.7657 | 1.91299 | 6698.3994 | 1.91343 | 6712.0470 |
| 3/16 | 1.91257 | 6685.6174 | 1.91301 | 6699.2520 | 1.91346 | 6712.9004 |
| 1/4 | 1.91260 | 6686.4692 | 1.91304 | 6700.1046 | 1.91348 | 6713.7539 |
| 5/16 | 1.91263 | 6687.3210 | 1.91307 | 6700.9573 | 1.91351 | 6714.6074 |
| 3/8 | 1.91265 | 6688.1729 | 1.91310 | 6701.8100 | 1.91354 | 6715.4610 |
| 7/16 | 1.91268 | 6689.0248 | 1.91312 | 6702.6628 | 1.91357 | 6716.3147 |
| 1/2 | 1.91271 | 6689.8767 | 1.91315 | 6703.5156 | 1.91359 | 6717.1684 |
| 9/16 | 1.91274 | 6690.7288 | 1.91318 | 6704.3685 | 1.91362 | 6718.0222 |
| 5/8 | 1.91276 | 6691.5808 | 1.91321 | 6705.2215 | 1.91365 | 6718.8760 |
| 11/16 | 1.91279 | 6692.4330 | 1.91323 | 6706.0745 | 1.91368 | 6719.7298 |
| 3/4 | 1.91282 | 6693.2852 | 1.91326 | 6706.9275 | 1.91370 | 6720.5838 |
| 13/16 | 1.91285 | 6694.1374 | 1.91329 | 6707.7806 | 1.91373 | 6721.4377 |
| 7/8 | 1.91287 | 6694.9897 | 1.91332 | 6708.6338 | 1.91376 | 6722.2918 |
| 15/16 | 1.91290 | 6695.8420 | 1.91334 | 6709.4870 | 1.91379 | 6723.1459 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.91381 | 6724.0000 | 1.91425 | 6737.6736 | 1.91470 | 6751.3611 |
| 1/16 | 1.91384 | 6724.8542 | 1.91428 | 6738.5287 | 1.91472 | 6752.2170 |
| 1/8 | 1.91387 | 6725.7084 | 1.91431 | 6739.3838 | 1.91475 | 6753.0730 |
| 3/16 | 1.91390 | 6726.5627 | 1.91434 | 6740.2390 | 1.91478 | 6753.9291 |
| 1/4 | 1.91392 | 6727.4171 | 1.91437 | 6741.0942 | 1.91481 | 6754.7852 |
| 5/16 | 1.91395 | 6728.2715 | 1.91439 | 6741.9495 | 1.91483 | 6755.6413 |
| 3/8 | 1.91398 | 6729.1260 | 1.91442 | 6742.8048 | 1.91486 | 6756.4975 |
| 7/16 | 1.91401 | 6729.9805 | 1.91445 | 6743.6602 | 1.91489 | 6757.3538 |
| 1/2 | 1.91403 | 6730.8351 | 1.91448 | 6744.5156 | 1.91492 | 6758.2101 |
| 9/16 | 1.91406 | 6731.6897 | 1.91450 | 6745.3711 | 1.91494 | 6759.0664 |
| 5/8 | 1.91409 | 6732.5444 | 1.91453 | 6746.2267 | 1.91497 | 6759.9229 |
| 11/16 | 1.91412 | 6733.3991 | 1.91456 | 6747.0823 | 1.91500 | 6760.7793 |
| 3/4 | 1.91414 | 6734.2539 | 1.91459 | 6747.9379 | 1.91503 | 6761.6359 |
| 13/16 | 1.91417 | 6735.1088 | 1.91461 | 6748.7936 | 1.91505 | 6762.4924 |
| 7/8 | 1.91420 | 6735.9637 | 1.91464 | 6749.6494 | 1.91508 | 6763.3491 |
| 15/16 | 1.91423 | 6736.8186 | 1.91467 | 6750.5052 | 1.91511 | 6764.2058 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.91514 | 6765.0625 | 1.91558 | 6778.7778 | 1.91602 | 6792.5069 |
| 1/16 | 1.91516 | 6765.9193 | 1.91560 | 6779.6354 | 1.91604 | 6793.3655 |
| 1/8 | 1.91519 | 6766.7762 | 1.91563 | 6780.4932 | 1.91607 | 6794.2241 |
| 3/16 | 1.91522 | 6767.6331 | 1.91566 | 6781.3509 | 1.91610 | 6795.0827 |
| 1/4 | 1.91525 | 6768.4900 | 1.91569 | 6782.2088 | 1.91612 | 6795.9414 |
| 5/16 | 1.91527 | 6769.3470 | 1.91571 | 6783.0667 | 1.91615 | 6796.8002 |
| 3/8 | 1.91530 | 6770.2041 | 1.91574 | 6783.9246 | 1.91618 | 6797.6590 |
| 7/16 | 1.91533 | 6771.0612 | 1.91577 | 6784.7826 | 1.91621 | 6798.5178 |
| 1/2 | 1.91536 | 6771.9184 | 1.91580 | 6785.6406 | 1.91623 | 6799.3767 |
| 9/16 | 1.91538 | 6772.7756 | 1.91582 | 6786.4987 | 1.91626 | 6800.2357 |
| 5/8 | 1.91541 | 6773.6329 | 1.91585 | 6787.3569 | 1.91629 | 6801.0947 |
| 11/16 | 1.91544 | 6774.4903 | 1.91588 | 6788.2151 | 1.91632 | 6801.9538 |
| 3/4 | 1.91547 | 6775.3477 | 1.91591 | 6789.0734 | 1.91634 | 6802.8129 |
| 13/16 | 1.91549 | 6776.2051 | 1.91593 | 6789.9317 | 1.91637 | 6803.6721 |
| 7/8 | 1.91552 | 6777.0626 | 1.91596 | 6790.7900 | 1.91640 | 6804.5314 |
| 15/16 | 1.91555 | 6777.9202 | 1.91599 | 6791.6485 | 1.91643 | 6805.3907 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.91645 | 6806.2500 | 1.91689 | 6820.0069 | 1.91733 | 6833.7778 |
| 1/16 | 1.91648 | 6807.1094 | 1.91692 | 6820.8672 | 1.91736 | 6834.6389 |
| 1/8 | 1.91651 | 6807.9689 | 1.91695 | 6821.7275 | 1.91739 | 6835.5001 |
| 3/16 | 1.91654 | 6808.8284 | 1.91697 | 6822.5879 | 1.91741 | 6836.3614 |
| 1/4 | 1.91656 | 6809.6879 | 1.91700 | 6823.4484 | 1.91744 | 6837.2227 |
| 5/16 | 1.91659 | 6810.5476 | 1.91703 | 6824.3088 | 1.91747 | 6838.0840 |
| 3/8 | 1.91662 | 6811.4072 | 1.91706 | 6825.1694 | 1.91749 | 6838.9454 |
| 7/16 | 1.91665 | 6812.2670 | 1.91708 | 6826.0300 | 1.91752 | 6839.8069 |
| 1/2 | 1.91667 | 6813.1267 | 1.91711 | 6826.8906 | 1.91755 | 6840.6684 |
| 9/16 | 1.91670 | 6813.9866 | 1.91714 | 6827.7513 | 1.91758 | 6841.5300 |
| 5/8 | 1.91673 | 6814.8465 | 1.91717 | 6828.6121 | 1.91760 | 6842.3916 |
| 11/16 | 1.91676 | 6815.7064 | 1.91719 | 6829.4729 | 1.91763 | 6843.2533 |
| 3/4 | 1.91678 | 6816.5664 | 1.91722 | 6830.3338 | 1.91766 | 6844.1150 |
| 13/16 | 1.91681 | 6817.4265 | 1.91725 | 6831.1947 | 1.91769 | 6844.9768 |
| 7/8 | 1.91684 | 6818.2866 | 1.91728 | 6832.0557 | 1.91771 | 6845.8387 |
| 15/16 | 1.91687 | 6819.1467 | 1.91730 | 6832.9167 | 1.91774 | 6846.7005 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.91777 | 6847.5625 | 1.91821 | 6861.3611 | 1.91864 | 6875.1736 |
| 1/16 | 1.91780 | 6848.4245 | 1.91823 | 6862.2240 | 1.91867 | 6876.0374 |
| 1/8 | 1.91782 | 6849.2866 | 1.91826 | 6863.0869 | 1.91870 | 6876.9012 |
| 3/16 | 1.91785 | 6850.1487 | 1.91829 | 6863.9499 | 1.91872 | 6877.7650 |
| 1/4 | 1.91788 | 6851.0109 | 1.91831 | 6864.8129 | 1.91875 | 6878.6289 |
| 5/16 | 1.91790 | 6851.8731 | 1.91834 | 6865.6760 | 1.91878 | 6879.4929 |
| 3/8 | 1.91793 | 6852.7354 | 1.91837 | 6866.5392 | 1.91881 | 6880.3569 |
| 7/16 | 1.91796 | 6853.5977 | 1.91840 | 6867.4024 | 1.91883 | 6881.2209 |
| 1/2 | 1.91799 | 6854.4601 | 1.91842 | 6868.2656 | 1.91886 | 6882.0851 |
| 9/16 | 1.91801 | 6855.3225 | 1.91845 | 6869.1289 | 1.91889 | 6882.9492 |
| 5/8 | 1.91804 | 6856.1850 | 1.91848 | 6869.9923 | 1.91891 | 6883.8135 |
| 11/16 | 1.91807 | 6857.0476 | 1.91851 | 6870.8557 | 1.91894 | 6884.6778 |
| 3/4 | 1.91810 | 6857.9102 | 1.91853 | 6871.7192 | 1.91897 | 6885.5421 |
| 13/16 | 1.91812 | 6858.7728 | 1.91856 | 6872.5827 | 1.91900 | 6886.4065 |
| 7/8 | 1.91815 | 6859.6355 | 1.91859 | 6873.4463 | 1.91902 | 6887.2709 |
| 15/16 | 1.91818 | 6860.4983 | 1.91861 | 6874.3099 | 1.91905 | 6888.1354 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.91908 | 6889.0000 | 1.91951 | 6902.8403 | 1.91995 | 6916.6944 |
| 1/16 | 1.91911 | 6889.8646 | 1.91954 | 6903.7058 | 1.91998 | 6917.5608 |
| 1/8 | 1.91913 | 6890.7293 | 1.91957 | 6904.5713 | 1.92000 | 6918.4272 |
| 3/16 | 1.91916 | 6891.5940 | 1.91960 | 6905.4369 | 1.92003 | 6919.2936 |
| 1/4 | 1.91919 | 6892.4588 | 1.91962 | 6906.3025 | 1.92006 | 6920.1602 |
| 5/16 | 1.91921 | 6893.3236 | 1.91965 | 6907.1682 | 1.92009 | 6921.0267 |
| 3/8 | 1.91924 | 6894.1885 | 1.91968 | 6908.0340 | 1.92011 | 6921.8933 |
| 7/16 | 1.91927 | 6895.0534 | 1.91970 | 6908.8998 | 1.92014 | 6922.7600 |
| 1/2 | 1.91930 | 6895.9184 | 1.91973 | 6909.7656 | 1.92017 | 6923.6267 |
| 9/16 | 1.91932 | 6896.7834 | 1.91976 | 6910.6315 | 1.92019 | 6924.4935 |
| 5/8 | 1.91935 | 6897.6485 | 1.91979 | 6911.4975 | 1.92022 | 6925.3604 |
| 11/16 | 1.91938 | 6898.5137 | 1.91981 | 6912.3635 | 1.92025 | 6926.2272 |
| 3/4 | 1.91941 | 6899.3789 | 1.91984 | 6913.2296 | 1.92028 | 6927.0942 |
| 13/16 | 1.91943 | 6900.2442 | 1.91987 | 6914.0957 | 1.92030 | 6927.9612 |
| 7/8 | 1.91946 | 6901.1095 | 1.91989 | 6914.9619 | 1.92033 | 6928.8282 |
| 15/16 | 1.91949 | 6901.9749 | 1.91992 | 6915.8282 | 1.92036 | 6929.6953 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.92038 | 6930.5625 | 1.92082 | 6944.4444 | 1.92125 | 6958.3403 |
| 1/16 | 1.92041 | 6931.4297 | 1.92085 | 6945.3125 | 1.92128 | 6959.2092 |
| 1/8 | 1.92044 | 6932.2970 | 1.92087 | 6946.1807 | 1.92131 | 6960.0782 |
| 3/16 | 1.92047 | 6933.1643 | 1.92090 | 6947.0489 | 1.92133 | 6960.9473 |
| 1/4 | 1.92049 | 6934.0317 | 1.92093 | 6947.9171 | 1.92136 | 6961.8164 |
| 5/16 | 1.92052 | 6934.8991 | 1.92095 | 6948.7854 | 1.92139 | 6962.6856 |
| 3/8 | 1.92055 | 6935.7666 | 1.92098 | 6949.6538 | 1.92142 | 6963.5548 |
| 7/16 | 1.92057 | 6936.6341 | 1.92101 | 6950.5222 | 1.92144 | 6964.4241 |
| 1/2 | 1.92060 | 6937.5017 | 1.92104 | 6951.3906 | 1.92147 | 6965.2934 |
| 9/16 | 1.92063 | 6938.3694 | 1.92106 | 6952.2591 | 1.92150 | 6966.1628 |
| 5/8 | 1.92066 | 6939.2371 | 1.92109 | 6953.1277 | 1.92152 | 6967.0322 |
| 11/16 | 1.92068 | 6940.1048 | 1.92112 | 6953.9963 | 1.92155 | 6967.9017 |
| 3/4 | 1.92071 | 6940.9727 | 1.92114 | 6954.8650 | 1.92158 | 6968.7713 |
| 13/16 | 1.92074 | 6941.8405 | 1.92117 | 6955.7338 | 1.92161 | 6969.6409 |
| 7/8 | 1.92076 | 6942.7084 | 1.92120 | 6956.6025 | 1.92163 | 6970.5105 |
| 15/16 | 1.92079 | 6943.5764 | 1.92123 | 6957.4714 | 1.92166 | 6971.3802 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.92169 | 6972.2500 | 1.92212 | 6986.1736 | 1.92255 | 7000.1111 |
| 1/16 | 1.92171 | 6973.1198 | 1.92215 | 6987.0443 | 1.92258 | 7000.9827 |
| 1/8 | 1.92174 | 6973.9897 | 1.92217 | 6987.9150 | 1.92261 | 7001.8543 |
| 3/16 | 1.92177 | 6974.8596 | 1.92220 | 6988.7858 | 1.92263 | 7002.7259 |
| 1/4 | 1.92179 | 6975.7296 | 1.92223 | 6989.6567 | 1.92266 | 7003.5977 |
| 5/16 | 1.92182 | 6976.5996 | 1.92225 | 6990.5276 | 1.92269 | 7004.4694 |
| 3/8 | 1.92185 | 6977.4697 | 1.92228 | 6991.3985 | 1.92271 | 7005.3413 |
| 7/16 | 1.92188 | 6978.3399 | 1.92231 | 6992.2696 | 1.92274 | 7006.2131 |
| 1/2 | 1.92190 | 6979.2101 | 1.92234 | 6993.1406 | 1.92277 | 7007.0851 |
| 9/16 | 1.92193 | 6980.0803 | 1.92236 | 6994.0117 | 1.92280 | 7007.9571 |
| 5/8 | 1.92196 | 6980.9506 | 1.92239 | 6994.8829 | 1.92282 | 7008.8291 |
| 11/16 | 1.92198 | 6981.8210 | 1.92242 | 6995.7542 | 1.92285 | 7009.7012 |
| 3/4 | 1.92201 | 6982.6914 | 1.92244 | 6996.6254 | 1.92288 | 7010.5734 |
| 13/16 | 1.92204 | 6983.5619 | 1.92247 | 6997.4968 | 1.92290 | 7011.4456 |
| 7/8 | 1.92207 | 6984.4324 | 1.92250 | 6998.3682 | 1.92293 | 7012.3178 |
| 15/16 | 1.92209 | 6985.3030 | 1.92253 | 6999.2396 | 1.92296 | 7013.1901 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.92298 | 7014.0625 | 1.92342 | 7028.0278 | 1.92385 | 7042.0069 |
| 1/16 | 1.92301 | 7014.9349 | 1.92344 | 7028.9011 | 1.92388 | 7042.8811 |
| 1/8 | 1.92304 | 7015.8074 | 1.92347 | 7029.7744 | 1.92390 | 7043.7553 |
| 3/16 | 1.92307 | 7016.6799 | 1.92350 | 7030.6478 | 1.92393 | 7044.6296 |
| 1/4 | 1.92309 | 7017.5525 | 1.92352 | 7031.5213 | 1.92396 | 7045.5039 |
| 5/16 | 1.92312 | 7018.4252 | 1.92355 | 7032.3948 | 1.92398 | 7046.3783 |
| 3/8 | 1.92315 | 7019.2979 | 1.92358 | 7033.2683 | 1.92401 | 7047.2527 |
| 7/16 | 1.92317 | 7020.1706 | 1.92361 | 7034.1420 | 1.92404 | 7048.1272 |
| 1/2 | 1.92320 | 7021.0434 | 1.92363 | 7035.0156 | 1.92406 | 7049.0017 |
| 9/16 | 1.92323 | 7021.9163 | 1.92366 | 7035.8894 | 1.92409 | 7049.8763 |
| 5/8 | 1.92325 | 7022.7892 | 1.92369 | 7036.7631 | 1.92412 | 7050.7510 |
| 11/16 | 1.92328 | 7023.6621 | 1.92371 | 7037.6370 | 1.92414 | 7051.6257 |
| 3/4 | 1.92331 | 7024.5352 | 1.92374 | 7038.5109 | 1.92417 | 7052.5004 |
| 13/16 | 1.92334 | 7025.4082 | 1.92377 | 7039.3848 | 1.92420 | 7053.3752 |
| 7/8 | 1.92336 | 7026.2814 | 1.92379 | 7040.2588 | 1.92423 | 7054.2501 |
| 15/16 | 1.92339 | 7027.1545 | 1.92382 | 7041.1328 | 1.92425 | 7055.1250 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.92428 | 7056.0000 | 1.92471 | 7070.0069 | 1.92514 | 7084.0278 |
| 1/16 | 1.92431 | 7056.8750 | 1.92474 | 7070.8828 | 1.92517 | 7084.9045 |
| 1/8 | 1.92433 | 7057.7501 | 1.92476 | 7071.7588 | 1.92519 | 7085.7814 |
| 3/16 | 1.92436 | 7058.6252 | 1.92479 | 7072.6348 | 1.92522 | 7086.6582 |
| 1/4 | 1.92439 | 7059.5004 | 1.92482 | 7073.5109 | 1.92525 | 7087.5352 |
| 5/16 | 1.92441 | 7060.3757 | 1.92484 | 7074.3870 | 1.92527 | 7088.4121 |
| 3/8 | 1.92444 | 7061.2510 | 1.92487 | 7075.2631 | 1.92530 | 7089.2892 |
| 7/16 | 1.92447 | 7062.1263 | 1.92490 | 7076.1394 | 1.92533 | 7090.1663 |
| 1/2 | 1.92449 | 7063.0017 | 1.92493 | 7077.0156 | 1.92536 | 7091.0434 |
| 9/16 | 1.92452 | 7063.8772 | 1.92495 | 7077.8920 | 1.92538 | 7091.9206 |
| 5/8 | 1.92455 | 7064.7527 | 1.92498 | 7078.7683 | 1.92541 | 7092.7979 |
| 11/16 | 1.92458 | 7065.6283 | 1.92501 | 7079.6448 | 1.92544 | 7093.6752 |
| 3/4 | 1.92460 | 7066.5039 | 1.92503 | 7080.5213 | 1.92546 | 7094.5525 |
| 13/16 | 1.92463 | 7067.3796 | 1.92506 | 7081.3978 | 1.92549 | 7095.4299 |
| 7/8 | 1.92466 | 7068.2553 | 1.92509 | 7082.2744 | 1.92552 | 7096.3074 |
| 15/16 | 1.92468 | 7069.1311 | 1.92511 | 7083.1511 | 1.92554 | 7097.1849 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.92557 | 7098.0625 | 1.92600 | 7112.1111 | 1.92643 | 7126.1736 |
| 1/16 | 1.92560 | 7098.9401 | 1.92603 | 7112.9896 | 1.92645 | 7127.0530 |
| 1/8 | 1.92562 | 7099.8178 | 1.92605 | 7113.8682 | 1.92648 | 7127.9324 |
| 3/16 | 1.92565 | 7100.6956 | 1.92608 | 7114.7468 | 1.92651 | 7128.8119 |
| 1/4 | 1.92568 | 7101.5734 | 1.92611 | 7115.6254 | 1.92654 | 7129.6914 |
| 5/16 | 1.92570 | 7102.4512 | 1.92613 | 7116.5042 | 1.92656 | 7130.5710 |
| 3/8 | 1.92573 | 7103.3291 | 1.92616 | 7117.3829 | 1.92659 | 7131.4506 |
| 7/16 | 1.92576 | 7104.2071 | 1.92619 | 7118.2617 | 1.92662 | 7132.3303 |
| 1/2 | 1.92578 | 7105.0851 | 1.92621 | 7119.1406 | 1.92664 | 7133.2101 |
| 9/16 | 1.92581 | 7105.9631 | 1.92624 | 7120.0196 | 1.92667 | 7134.0899 |
| 5/8 | 1.92584 | 7106.8413 | 1.92627 | 7120.8985 | 1.92670 | 7134.9697 |
| 11/16 | 1.92587 | 7107.7194 | 1.92629 | 7121.7776 | 1.92672 | 7135.8496 |
| 3/4 | 1.92589 | 7108.5977 | 1.92632 | 7122.6567 | 1.92675 | 7136.7296 |
| 13/16 | 1.92592 | 7109.4759 | 1.92635 | 7123.5358 | 1.92678 | 7137.6096 |
| 7/8 | 1.92595 | 7110.3543 | 1.92637 | 7124.4150 | 1.92680 | 7138.4897 |
| 15/16 | 1.92597 | 7111.2327 | 1.92640 | 7125.2943 | 1.92683 | 7139.3698 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.92686 | 7140.2500 | 1.92728 | 7154.3403 | 1.92771 | 7168.4444 |
| 1/16 | 1.92688 | 7141.1302 | 1.92731 | 7155.2214 | 1.92774 | 7169.3264 |
| 1/8 | 1.92691 | 7142.0105 | 1.92734 | 7156.1025 | 1.92777 | 7170.2084 |
| 3/16 | 1.92694 | 7142.8909 | 1.92737 | 7156.9838 | 1.92779 | 7171.0905 |
| 1/4 | 1.92696 | 7143.7713 | 1.92739 | 7157.8650 | 1.92782 | 7171.9727 |
| 5/16 | 1.92699 | 7144.6517 | 1.92742 | 7158.7463 | 1.92785 | 7172.8548 |
| 3/8 | 1.92702 | 7145.5322 | 1.92745 | 7159.6277 | 1.92787 | 7173.7371 |
| 7/16 | 1.92704 | 7146.4128 | 1.92747 | 7160.5091 | 1.92790 | 7174.6194 |
| 1/2 | 1.92707 | 7147.2934 | 1.92750 | 7161.3906 | 1.92793 | 7175.5017 |
| 9/16 | 1.92710 | 7148.1741 | 1.92753 | 7162.2722 | 1.92795 | 7176.3841 |
| 5/8 | 1.92712 | 7149.0548 | 1.92755 | 7163.1538 | 1.92798 | 7177.2666 |
| 11/16 | 1.92715 | 7149.9356 | 1.92758 | 7164.0354 | 1.92801 | 7178.1491 |
| 3/4 | 1.92718 | 7150.8164 | 1.92761 | 7164.9171 | 1.92803 | 7179.0317 |
| 13/16 | 1.92720 | 7151.6973 | 1.92763 | 7165.7989 | 1.92806 | 7179.9143 |
| 7/8 | 1.92723 | 7152.5782 | 1.92766 | 7166.6807 | 1.92809 | 7180.7970 |
| 15/16 | 1.92726 | 7153.4592 | 1.92769 | 7167.5625 | 1.92811 | 7181.6797 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.92814 | 7182.5625 | 1.92857 | 7196.6944 | 1.92899 | 7210.8403 |
| 1/16 | 1.92817 | 7183.4453 | 1.92859 | 7197.5782 | 1.92902 | 7211.7249 |
| 1/8 | 1.92819 | 7184.3282 | 1.92862 | 7198.4619 | 1.92905 | 7212.6095 |
| 3/16 | 1.92822 | 7185.2112 | 1.92865 | 7199.3457 | 1.92907 | 7213.4942 |
| 1/4 | 1.92825 | 7186.0942 | 1.92867 | 7200.2296 | 1.92910 | 7214.3789 |
| 5/16 | 1.92827 | 7186.9772 | 1.92870 | 7201.1135 | 1.92913 | 7215.2637 |
| 3/8 | 1.92830 | 7187.8604 | 1.92873 | 7201.9975 | 1.92915 | 7216.1485 |
| 7/16 | 1.92833 | 7188.7435 | 1.92875 | 7202.8815 | 1.92918 | 7217.0334 |
| 1/2 | 1.92835 | 7189.6267 | 1.92878 | 7203.7656 | 1.92921 | 7217.9184 |
| 9/16 | 1.92838 | 7190.5100 | 1.92881 | 7204.6498 | 1.92923 | 7218.8034 |
| 5/8 | 1.92841 | 7191.3933 | 1.92883 | 7205.5340 | 1.92926 | 7219.6885 |
| 11/16 | 1.92843 | 7192.2767 | 1.92886 | 7206.4182 | 1.92929 | 7220.5736 |
| 3/4 | 1.92846 | 7193.1602 | 1.92889 | 7207.3025 | 1.92931 | 7221.4588 |
| 13/16 | 1.92849 | 7194.0436 | 1.92891 | 7208.1869 | 1.92934 | 7222.3440 |
| 7/8 | 1.92851 | 7194.9272 | 1.92894 | 7209.0713 | 1.92937 | 7223.2293 |
| 15/16 | 1.92854 | 7195.8108 | 1.92897 | 7209.9558 | 1.92939 | 7224.1146 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.92942 | 7225.0000 | 1.92984 | 7239.1736 | 1.93027 | 7253.3611 |
| 1/16 | 1.92945 | 7225.8854 | 1.92987 | 7240.0599 | 1.93030 | 7254.2483 |
| 1/8 | 1.92947 | 7226.7709 | 1.92990 | 7240.9463 | 1.93032 | 7255.1355 |
| 3/16 | 1.92950 | 7227.6565 | 1.92992 | 7241.8327 | 1.93035 | 7256.0228 |
| 1/4 | 1.92953 | 7228.5421 | 1.92995 | 7242.7192 | 1.93038 | 7256.9102 |
| 5/16 | 1.92955 | 7229.4278 | 1.92998 | 7243.6057 | 1.93040 | 7257.7976 |
| 3/8 | 1.92958 | 7230.3135 | 1.93000 | 7244.4923 | 1.93043 | 7258.6850 |
| 7/16 | 1.92961 | 7231.1992 | 1.93003 | 7245.3789 | 1.93046 | 7259.5725 |
| 1/2 | 1.92963 | 7232.0851 | 1.93006 | 7246.2656 | 1.93048 | 7260.4601 |
| 9/16 | 1.92966 | 7232.9709 | 1.93008 | 7247.1524 | 1.93051 | 7261.3477 |
| 5/8 | 1.92968 | 7233.8569 | 1.93011 | 7248.0392 | 1.93054 | 7262.2354 |
| 11/16 | 1.92971 | 7234.7429 | 1.93014 | 7248.9260 | 1.93056 | 7263.1231 |
| 3/4 | 1.92974 | 7235.6289 | 1.93016 | 7249.8129 | 1.93059 | 7264.0109 |
| 13/16 | 1.92976 | 7236.5150 | 1.93019 | 7250.6999 | 1.93061 | 7264.8987 |
| 7/8 | 1.92979 | 7237.4012 | 1.93022 | 7251.5869 | 1.93064 | 7265.7866 |
| 15/16 | 1.92982 | 7238.2874 | 1.93024 | 7252.4740 | 1.93067 | 7266.6745 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.93069 | 7267.5625 | 1.93112 | 7281.7778 | 1.93154 | 7296.0069 |
| 1/16 | 1.93072 | 7268.4505 | 1.93115 | 7282.6667 | 1.93157 | 7296.8967 |
| 1/8 | 1.93075 | 7269.3387 | 1.93117 | 7283.5557 | 1.93160 | 7297.7866 |
| 3/16 | 1.93077 | 7270.2268 | 1.93120 | 7284.4447 | 1.93162 | 7298.6765 |
| 1/4 | 1.93080 | 7271.1150 | 1.93122 | 7285.3338 | 1.93165 | 7299.5664 |
| 5/16 | 1.93083 | 7272.0033 | 1.93125 | 7286.2229 | 1.93168 | 7300.4564 |
| 3/8 | 1.93085 | 7272.8916 | 1.93128 | 7287.1121 | 1.93170 | 7301.3465 |
| 7/16 | 1.93088 | 7273.7800 | 1.93130 | 7288.0013 | 1.93173 | 7302.2366 |
| 1/2 | 1.93091 | 7274.6684 | 1.93133 | 7288.8906 | 1.93175 | 7303.1267 |
| 9/16 | 1.93093 | 7275.5569 | 1.93136 | 7289.7800 | 1.93178 | 7304.0170 |
| 5/8 | 1.93096 | 7276.4454 | 1.93138 | 7290.6694 | 1.93181 | 7304.9072 |
| 11/16 | 1.93099 | 7277.3340 | 1.93141 | 7291.5588 | 1.93183 | 7305.7976 |
| 3/4 | 1.93101 | 7278.2227 | 1 93144 | 7292.4484 | 1.93186 | 7306.6879 |
| 13/16 | 1.93104 | 7279.1114 | 1.93146 | 7293.3379 | 1.93189 | 7307.5784 |
| 7/8 | 1.93107 | 7280.0001 | 1.93149 | 7294.2275 | 1.93191 | 7308.4689 |
| 15/16 | 1.93109 | 7280.8889 | 1.93152 | 7295.1172 | 1.93194 | 7309.3594 |

| Fraction of an inch | 6″ | | 7″ | | 8′ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.93197 | 7310.2500 | 1.93239 | 7324.5069 | 1.93281 | 7338.7778 |
| 1/16 | 1.93199 | 7311.1407 | 1.93242 | 7325.3985 | 1.93284 | 7339.6702 |
| 1/8 | 1.93202 | 7312.0314 | 1.93244 | 7326.2900 | 1.93286 | 7340.5626 |
| 3/16 | 1.93205 | 7312.9221 | 1.93247 | 7327.1817 | 1.93289 | 7341.4551 |
| 1/4 | 1.93207 | 7313.8129 | 1.93249 | 7328.0734 | 1.93292 | 7342.3477 |
| 5/16 | 1.93210 | 7314.7038 | 1.93252 | 7328.9651 | 1.93294 | 7343.2403 |
| 3/8 | 1.93212 | 7315.5947 | 1.93255 | 7329.8569 | 1.93297 | 7344.1329 |
| 7/16 | 1.93215 | 7316.4857 | 1.93257 | 7330.7487 | 1.93300 | 7345.0256 |
| 1/2 | 1.93218 | 7317.3767 | 1.93260 | 7331.6406 | 1.93302 | 7345.9184 |
| 9/16 | 1.93220 | 7318.2678 | 1.93263 | 7332.5326 | 1.93305 | 7346.8112 |
| 5/8 | 1.93223 | 7319.1590 | 1.93265 | 7333.4246 | 1.93308 | 7347.7041 |
| 11/16 | 1.93226 | 7320.0502 | 1.93268 | 7334.3167 | 1.93310 | 7348.5970 |
| 3/4 | 1.93228 | 7320.9414 | 1.93271 | 7335.2088 | 1.93313 | 7349.4900 |
| 13/16 | 1.93231 | 7321.8327 | 1.93273 | 7336.1009 | 1.93315 | 7350.3831 |
| 7/8 | 1.93234 | 7322.7241 | 1.93276 | 7336.9932 | 1.93318 | 7351.2762 |
| 15/16 | 1.93236 | 7323.6155 | 1.93279 | 7337.8854 | 1.93321 | 7352.1693 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.93323 | 7353.0625 | 1.93366 | 7367.3611 | 1.93408 | 7381.6736 |
| 1/16 | 1.93326 | 7353.9558 | 1.93368 | 7368.2552 | 1.93410 | 7382.5686 |
| 1/8 | 1.93329 | 7354.8491 | 1.93371 | 7369.1494 | 1.93413 | 7383.4637 |
| 3/16 | 1.93331 | 7355.7424 | 1.93374 | 7370.0436 | 1.93416 | 7384.3588 |
| 1/4 | 1.93334 | 7356.6359 | 1.93376 | 7370.9379 | 1.93418 | 7385.2539 |
| 5/16 | 1.93337 | 7357.5293 | 1.93379 | 7371.8323 | 1.93421 | 7386.1491 |
| 3/8 | 1.93339 | 7358.4229 | 1.93381 | 7372.7267 | 1.93424 | 7387.0444 |
| 7/16 | 1.93342 | 7359.3164 | 1.93384 | 7373.6211 | 1.93426 | 7387.9397 |
| 1/2 | 1.93345 | 7360.2101 | 1.93387 | 7374.5156 | 1.93429 | 7388.8351 |
| 9/16 | 1.93347 | 7361.1038 | 1.93389 | 7375.4102 | 1.93431 | 7389.7305 |
| 5/8 | 1.93350 | 7361.9975 | 1.93392 | 7376.3048 | 1.93434 | 7390.6260 |
| 11/16 | 1.93352 | 7362.8913 | 1.93395 | 7377.1995 | 1.93437 | 7391.5215 |
| 3/4 | 1.93355 | 7363.7852 | 1.93397 | 7378.0942 | 1.93439 | 7392.4171 |
| 13/16 | 1.93358 | 7364.6791 | 1.93400 | 7378.9890 | 1.93442 | 7393.3127 |
| 7/8 | 1.93360 | 7365.5730 | 1.93402 | 7379.8838 | 1.93445 | 7394.2084 |
| 15/16 | 1.93363 | 7366.4670 | 1.93405 | 7380.7787 | 1.93447 | 7395.1042 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.93450 | 7396.0000 | 1.93492 | 7410.3403 | 1.93534 | 7424.6944 |
| 1/16 | 1.93452 | 7396.8959 | 1.93495 | 7411.2370 | 1.93537 | 7425.5920 |
| 1/8 | 1.93455 | 7397.7918 | 1.93497 | 7412.1338 | 1.93539 | 7426.4897 |
| 3/16 | 1.93458 | 7398.6877 | 1.93500 | 7413.0306 | 1.93542 | 7427.3874 |
| 1/4 | 1.93460 | 7399.5838 | 1.93502 | 7413.9275 | 1.93544 | 7428.2852 |
| 5/16 | 1.93463 | 7400.4798 | 1.93505 | 7414.8245 | 1.93547 | 7429.1830 |
| 3/8 | 1.93466 | 7401.3760 | 1.93508 | 7415.7215 | 1.93550 | 7430.0808 |
| 7/16 | 1.93468 | 7402.2722 | 1.93510 | 7416.6185 | 1.93552 | 7430.9788 |
| 1/2 | 1.93471 | 7403.1684 | 1.93513 | 7417.5156 | 1.93555 | 7431.8767 |
| 9/16 | 1.93474 | 7404.0647 | 1.93516 | 7418.4128 | 1.93558 | 7432.7748 |
| 5/8 | 1.93476 | 7404.9610 | 1.93518 | 7419.3100 | 1.93560 | 7433.6729 |
| 11/16 | 1.93479 | 7405.8574 | 1.93521 | 7420.2073 | 1.93563 | 7434.5710 |
| 3/4 | 1.93481 | 7406.7539 | 1.93523 | 7421.1046 | 1.93565 | 7435.4692 |
| 13/16 | 1.93484 | 7407.6504 | 1.93526 | 7422.0020 | 1.93568 | 7436.3674 |
| 7/8 | 1.93487 | 7408.5470 | 1.93529 | 7422.8994 | 1.93571 | 7437.2657 |
| 15/16 | 1.93489 | 7409.4436 | 1.93531 | 7423.7969 | 1.93573 | 7438.1641 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.93576 | 7439.0625 | 1.93618 | 7453.4444 | 1.93660 | 7467.8403 |
| 1/16 | 1.93579 | 7439.9610 | 1.93620 | 7454.3438 | 1.93662 | 7468.7405 |
| 1/8 | 1.93581 | 7440.8595 | 1.93623 | 7455.2432 | 1.93665 | 7469.6407 |
| 3/16 | 1.93584 | 7441.7581 | 1.93626 | 7456.1426 | 1.93668 | 7470.5410 |
| 1/4 | 1.93586 | 7442.6567 | 1.93628 | 7457.0421 | 1.93670 | 7471.4414 |
| 5/16 | 1.93589 | 7443.5554 | 1.93631 | 7457.9417 | 1.93673 | 7472.3418 |
| 3/8 | 1.93592 | 7444.4541 | 1.93634 | 7458.8413 | 1.93675 | 7473.2423 |
| 7/16 | 1.93594 | 7445.3529 | 1.93636 | 7459.7409 | 1.93678 | 7474.1428 |
| 1/2 | 1.93597 | 7446.2517 | 1.93639 | 7460.6406 | 1.93681 | 7475.0434 |
| 9/16 | 1.93600 | 7447.1506 | 1.93641 | 7461.5404 | 1.93683 | 7475.9440 |
| 5/8 | 1.93602 | 7448.0496 | 1.93644 | 7462.4402 | 1.93686 | 7476.8447 |
| 11/16 | 1.93605 | 7448.9486 | 1.93647 | 7463.3401 | 1.93689 | 7477.7455 |
| 3/4 | 1.93607 | 7449.8477 | 1.93649 | 7464.2400 | 1.93691 | 7478.6463 |
| 13/16 | 1.93610 | 7450.7468 | 1.93652 | 7465.1400 | 1.93694 | 7479.5471 |
| 7/8 | 1.93613 | 7451.6459 | 1.93655 | 7466.0400 | 1.93696 | 7480.4480 |
| 15/16 | 1.93615 | 7452.5452 | 1.93657 | 7466.9401 | 1.93699 | 7481.3490 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.93702 | 7482.2500 | 1.93743 | 7496.6736 | 1.93785 | 7511 1111 |
| 1/16 | 1.93704 | 7483.1511 | 1.93746 | 7497.5755 | 1.93788 | 7512.0139 |
| 1/8 | 1.93707 | 7484.0522 | 1.93749 | 7498.4775 | 1.93790 | 7512.9168 |
| 3/16 | 1.93709 | 7484.9534 | 1.93751 | 7499.3796 | 1.93793 | 7513.8197 |
| 1/4 | 1.93712 | 7485.8546 | 1.93754 | 7500.2817 | 1.93796 | 7514.7227 |
| 5/16 | 1.93715 | 7486.7559 | 1.93756 | 7501.1838 | 1.93798 | 7515.6257 |
| 3/8 | 1.93717 | 7487.6572 | 1.93759 | 7502.0860 | 1.93801 | 7516.5288 |
| 7/16 | 1.93720 | 7488.5586 | 1.93762 | 7502.9883 | 1.93803 | 7517.4319 |
| 1/2 | 1.93723 | 7489.4601 | 1.93764 | 7503.8906 | 1.93806 | 7518.3351 |
| 9/16 | 1.93725 | 7490.3616 | 1.93767 | 7504.7930 | 1.93809 | 7519.2383 |
| 5/8 | 1.93728 | 7491.2631 | 1.93770 | 7505.6954 | 1.93811 | 7520.1416 |
| 11/16 | 1.93730 | 7492.1647 | 1.93772 | 7506.5979 | 1.93814 | 7521.0449 |
| 3/4 | 1.93733 | 7493.0664 | 1.93775 | 7507.5004 | 1.93817 | 7521.9484 |
| 13/16 | 1.93736 | 7493.9681 | 1.93777 | 7508.4030 | 1.93819 | 7522.8518 |
| 7/8 | 1.93738 | 7494.8699 | 1.93780 | 7509.3057 | 1.93822 | 7523.7553 |
| 15/16 | 1.93741 | 7495.7717 | 1.93783 | 7510.2084 | 1.93824 | 7524.6589 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.93827 | 7525.5625 | 1.93869 | 7540.0278 | 1.93910 | 7554.5069 |
| 1/16 | 1.93830 | 7526.4662 | 1.93871 | 7540.9323 | 1.93913 | 7555.4124 |
| 1/8 | 1.93832 | 7527.3699 | 1.93874 | 7541.8369 | 1.93916 | 7556.3178 |
| 3/16 | 1.93835 | 7528.2737 | 1.93876 | 7542.7416 | 1.93918 | 7557.2233 |
| 1/4 | 1.93837 | 7529.1775 | 1.93879 | 7543.6463 | 1.93921 | 7558.1289 |
| 5/16 | 1.93840 | 7530.0814 | 1.93882 | 7544.5510 | 1.93923 | 7559.0345 |
| 3/8 | 1.93843 | 7530.9854 | 1.93884 | 7545.4558 | 1.93926 | 7559.9402 |
| 7/16 | 1.93845 | 7531.8894 | 1.93887 | 7546.3607 | 1.93929 | 7560.8459 |
| 1/2 | 1.93848 | 7532.7934 | 1.93889 | 7547.2656 | 1.93931 | 7561.7517 |
| 9/16 | 1.93850 | 7533.6975 | 1.93892 | 7548.1706 | 1.93934 | 7562.6576 |
| 5/8 | 1.93853 | 7534.6017 | 1.93895 | 7549.0756 | 1.93936 | 7563.5635 |
| 11/16 | 1.93856 | 7535.5059 | 1.93897 | 7549.9807 | 1.93939 | 7564.4694 |
| 3/4 | 1.93858 | 7536.4102 | 1.93900 | 7550.8859 | 1.93942 | 7565.3754 |
| 13/16 | 1.93861 | 7537.3145 | 1.93902 | 7551.7910 | 1.93944 | 7566.2815 |
| 7/8 | 1.93863 | 7538.2189 | 1.93905 | 7552 6963 | 1.93947 | 7567.1876 |
| 15/16 | 1.93866 | 7539.1233 | 1.93908 | 7553.6016 | 1.93949 | 7568.0938 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.93952 | 7569.0000 | 1.93994 | 7583.5069 | 1.94035 | 7598.0278 |
| 1/16 | 1.93955 | 7569.9063 | 1.93996 | 7584.4141 | 1.94038 | 7598.9358 |
| 1/8 | 1.93957 | 7570.8126 | 1.93999 | 7585.3213 | 1.94040 | 7599.8439 |
| 3/16 | 1.93960 | 7571.7190 | 1.94001 | 7586.2285 | 1.94043 | 7600.7520 |
| 1/4 | 1.93962 | 7572.6254 | 1.94004 | 7587.1359 | 1.94045 | 7601.6602 |
| 5/16 | 1.93965 | 7573.5319 | 1.94006 | 7588.0432 | 1.94048 | 7602.5684 |
| 3/8 | 1.93968 | 7574.4385 | 1.94009 | 7588.9506 | 1.94051 | 7603.4767 |
| 7/16 | 1.93970 | 7575.3451 | 1.94012 | 7589.8581 | 1.94053 | 7604.3850 |
| 1/2 | 1.93973 | 7576.2517 | 1.94014 | 7590.7656 | 1.94056 | 7605.2934 |
| 9/16 | 1.93975 | 7577.1584 | 1.94017 | 7591.6732 | 1.94058 | 7606.2019 |
| 5/8 | 1.93978 | 7578.0652 | 1.94019 | 7592.5808 | 1.94061 | 7607.1104 |
| 11/16 | 1.93981 | 7578.9720 | 1.94022 | 7593.4885 | 1.94064 | 7608.0189 |
| 3/4 | 1.93983 | 7579.8789 | 1.94025 | 7594.3963 | 1.94066 | 7608.9275 |
| 13/16 | 1.93986 | 7580.7858 | 1.94027 | 7595.3041 | 1.94069 | 7609.8362 |
| 7/8 | 1.93988 | 7581.6928 | 1.94030 | 7596.2119 | 1.94071 | 7610.7449 |
| 15/16 | 1.93991 | 7582.5999 | 1.94032 | 7597.1198 | 1.94074 | 7611.6537 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.94077 | 7612.5625 | 1.94118 | 7627.1111 | 1.94159 | 7641.6736 |
| 1/16 | 1.94079 | 7613.4714 | 1.94121 | 7628.0209 | 1.94162 | 7642.5842 |
| 1/8 | 1.94082 | 7614.3803 | 1.94123 | 7628.9307 | 1.94165 | 7643.4949 |
| 3/16 | 1.94084 | 7615.2893 | 1.94126 | 7629.8405 | 1.94167 | 7644.4056 |
| 1/4 | 1.94087 | 7616.1984 | 1.94128 | 7630.7504 | 1.94170 | 7645.3164 |
| 5/16 | 1.94090 | 7617.1074 | 1.94131 | 7631.6604 | 1.94172 | 7646.2272 |
| 3/8 | 1.94092 | 7618.0166 | 1.94134 | 7632.5704 | 1.94175 | 7647.1381 |
| 7/16 | 1.94095 | 7618.9258 | 1.94136 | 7633.4805 | 1.94178 | 7648.0491 |
| 1/2 | 1.94097 | 7619.8351 | 1.94139 | 7634.3906 | 1.94180 | 7648.9601 |
| 9/16 | 1.94100 | 7620.7444 | 1.94141 | 7635.3008 | 1.94183 | 7649.8711 |
| 5/8 | 1.94102 | 7621.6538 | 1.94144 | 7636.2110 | 1.94185 | 7650.7822 |
| 11/16 | 1.94105 | 7622.5632 | 1.94146 | 7637.1213 | 1.94188 | 7651.6934 |
| 3/4 | 1.94108 | 7623.4727 | 1.94149 | 7638.0317 | 1.94190 | 7652.6046 |
| 13/16 | 1.94110 | 7624.3822 | 1.94152 | 7638.9421 | 1.94193 | 7653.5159 |
| 7/8 | 1.94113 | 7625.2918 | 1.94154 | 7639.8525 | 1.94196 | 7654.4272 |
| 15/16 | 1.94115 | 7626.2014 | 1.94157 | 7640.7630 | 1.94198 | 7655.3386 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.94201 | 7656.2500 | 1.94242 | 7670.8403 | 1.94283 | 7685.4444 |
| 1/16 | 1.94203 | 7657.1615 | 1.94245 | 7671.7526 | 1.94286 | 7686.3577 |
| 1/8 | 1.94206 | 7658.0730 | 1.94247 | 7672.6650 | 1.94289 | 7687.2709 |
| 3/16 | 1.94209 | 7658.9846 | 1.94250 | 7673.5775 | 1.94291 | 7688.1843 |
| 1/4 | 1.94211 | 7659.8963 | 1.94252 | 7674.4900 | 1.94294 | 7689.0977 |
| 5/16 | 1.94214 | 7660.8080 | 1.94255 | 7675.4026 | 1.94296 | 7690.0111 |
| 3/8 | 1.94216 | 7661.7197 | 1.94258 | 7676.3152 | 1.94299 | 7690.9246 |
| 7/16 | 1.94219 | 7662.6315 | 1.94260 | 7677.2279 | 1.94302 | 7691.8381 |
| 1/2 | 1.94221 | 7663.5434 | 1.94263 | 7678.1406 | 1.94304 | 7692.7517 |
| 9/16 | 1.94224 | 7664.4553 | 1.94265 | 7679.0534 | 1.94307 | 7693.6654 |
| 5/8 | 1.94227 | 7665.3673 | 1.94268 | 7679.9663 | 1.94309 | 7694.5791 |
| 11/16 | 1.94229 | 7666.2793 | 1.94271 | 7680.8792 | 1.94312 | 7695.4929 |
| 3/4 | 1.94232 | 7667.1914 | 1.94273 | 7681.7921 | 1.94314 | 7696.4067 |
| 13/16 | 1.94234 | 7668.1035 | 1.94276 | 7682.7051 | 1.94317 | 7697.3206 |
| 7/8 | 1.94237 | 7669.0157 | 1.94278 | 7683.6182 | 1.94320 | 7698.2345 |
| 15/16 | 1.94240 | 7669.9280 | 1.94281 | 7684.5313 | 1.94322 | 7699.1485 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.94325 | 7700.0625 | 1.94366 | 7714.6944 | 1.94407 | 7729.3403 |
| 1/16 | 1.94327 | 7700.9766 | 1.94369 | 7715.6094 | 1.94410 | 7730.2561 |
| 1/8 | 1.94330 | 7701.8907 | 1.94371 | 7716.5244 | 1.94412 | 7731.1720 |
| 3/16 | 1.94332 | 7702.8049 | 1.94374 | 7717.4395 | 1.94415 | 7732.0879 |
| 1/4 | 1.94335 | 7703.7192 | 1.94376 | 7718.3546 | 1.94417 | 7733.0039 |
| 5/16 | 1.94338 | 7704.6335 | 1.94379 | 7719.2698 | 1.94420 | 7733.9199 |
| 3/8 | 1.94340 | 7705.5479 | 1.94381 | 7720.1850 | 1.94423 | 7734.8360 |
| 7/16 | 1.94343 | 7706.4623 | 1.94384 | 7721.1003 | 1.94425 | 7735.7522 |
| 1/2 | 1.94345 | 7707.3767 | 1.94387 | 7722.0156 | 1.94428 | 7736.6684 |
| 9/16 | 1.94348 | 7708.2913 | 1.94389 | 7722.9310 | 1.94430 | 7737.5847 |
| 5/8 | 1.94350 | 7709.2058 | 1.94392 | 7723.8465 | 1.94433 | 7738.5010 |
| 11/16 | 1.94353 | 7710.1205 | 1.94394 | 7724.7620 | 1.94435 | 7739.4173 |
| 3/4 | 1.94356 | 7711.0352 | 1.94397 | 7725.6775 | 1.94438 | 7740.3338 |
| 13/16 | 1.94358 | 7711.9499 | 1.94399 | 7726.5931 | 1.94441 | 7741.2502 |
| 7/8 | 1.94361 | 7712.8647 | 1.94402 | 7727.5088 | 1.94443 | 7742.1668 |
| 15/16 | 1.94363 | 7713.7795 | 1.94405 | 7728.4245 | 1.94446 | 7743.0834 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.94448 | 7744.0000 | 1.94489 | 7758.6736 | 1.94530 | 7773.3611 |
| 1/16 | 1.94451 | 7744.9167 | 1.94492 | 7759.5912 | 1.94533 | 7774.2795 |
| 1/8 | 1.94453 | 7745.8334 | 1.94495 | 7760.5088 | 1.94536 | 7775.1980 |
| 3/16 | 1.94456 | 7746.7502 | 1.94497 | 7761.4265 | 1.94538 | 7776.1166 |
| 1/4 | 1.94459 | 7747.6671 | 1.94500 | 7762.3442 | 1.94541 | 7777.0352 |
| 5/16 | 1.94461 | 7748.5840 | 1.94502 | 7763.2620 | 1.94543 | 7777.9538 |
| 3/8 | 1.94464 | 7749.5010 | 1.94505 | 7764.1798 | 1.94546 | 7778.8725 |
| 7/16 | 1.94466 | 7750.4180 | 1.94507 | 7765.0977 | 1.94548 | 7779.7913 |
| 1/2 | 1.94469 | 7751.3351 | 1.94510 | 7766.0156 | 1.94551 | 7780.7101 |
| 9/16 | 1.94471 | 7752.2522 | 1.94512 | 7766.9336 | 1.94554 | 7781.6289 |
| 5/8 | 1.94474 | 7753.1694 | 1.94515 | 7767.8517 | 1.94556 | 7782.5479 |
| 11/16 | 1.94477 | 7754.0866 | 1.94518 | 7768.7698 | 1.94559 | 7783.4668 |
| 3/4 | 1.94479 | 7755.0039 | 1.94520 | 7769.6879 | 1.94561 | 7784.3859 |
| 13/16 | 1.94482 | 7755.9213 | 1.94523 | 7770.6061 | 1.94564 | 7785.3049 |
| 7/8 | 1.94484 | 7756.8387 | 1.94525 | 7771.5244 | 1.94566 | 7786.2241 |
| 15/16 | 1.94487 | 7757.7561 | 1.94528 | 7772.4427 | 1.94569 | 7787.1433 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.94571 | 7788.0625 | 1.94612 | 7802.7778 | 1.94653 | 7817.5069 |
| 1/16 | 1.94574 | 7788.9818 | 1.94615 | 7803.6979 | 1.94656 | 7818.4280 |
| 1/8 | 1.94577 | 7789.9012 | 1.94618 | 7804.6182 | 1.94659 | 7819.3491 |
| 3/16 | 1.94579 | 7790.8206 | 1.94620 | 7805.5384 | 1.94661 | 7820.2702 |
| 1/4 | 1.94582 | 7791.7400 | 1.94623 | 7806.4588 | 1.94664 | 7821.1914 |
| 5/16 | 1.94584 | 7792.6595 | 1.94625 | 7807.3792 | 1.94666 | 7822.1127 |
| 3/8 | 1.94587 | 7793.5791 | 1.94628 | 7808.2996 | 1.94669 | 7823.0340 |
| 7/16 | 1.94589 | 7794.4987 | 1.94630 | 7809.2201 | 1.94671 | 7823.9553 |
| 1/2 | 1.94592 | 7795.4184 | 1.94633 | 7810.1406 | 1.94674 | 7824.8767 |
| 9/16 | 1.94595 | 7796.3381 | 1.94636 | 7811.0612 | 1.94676 | 7825.7982 |
| 5/8 | 1.94597 | 7797.2579 | 1.94638 | 7811.9819 | 1.94679 | 7826.7197 |
| 11/16 | 1.94600 | 7798.1778 | 1.94641 | 7812.9026 | 1.94682 | 7827.6413 |
| 3/4 | 1.94602 | 7799.0977 | 1.94643 | 7813.8234 | 1.94684 | 7828.5629 |
| 13/16 | 1.94605 | 7800.0176 | 1.94646 | 7814.7442 | 1.94687 | 7829.4846 |
| 7/8 | 1.94607 | 7800.9376 | 1.94648 | 7815.6650 | 1.94689 | 7830.4064 |
| 15/16 | 1.94610 | 7801.8577 | 1.94651 | 7816.5860 | 1.94692 | 7831.3282 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.94694 | 7832.2500 | 1.94735 | 7847.0069 | 1.94776 | 7861.7778 |
| 1/16 | 1.94697 | 7833.1719 | 1.94738 | 7847.9297 | 1.94779 | 7862.7014 |
| 1/8 | 1.94699 | 7834.0939 | 1.94740 | 7848.8525 | 1.94781 | 7863.6251 |
| 3/16 | 1.94702 | 7835.0159 | 1.94743 | 7849.7754 | 1.94784 | 7864.5489 |
| 1/4 | 1.94705 | 7835.9379 | 1.94745 | 7850.6984 | 1.94786 | 7865.4727 |
| 5/16 | 1.94707 | 7836.8601 | 1.94748 | 7851.6213 | 1.94789 | 7866.3965 |
| 3/8 | 1.94710 | 7837.7822 | 1.94751 | 7852.5444 | 1.94791 | 7867.3204 |
| 7/16 | 1.94712 | 7838.7045 | 1.94753 | 7853.4675 | 1.94794 | 7868.2444 |
| 1/2 | 1.94715 | 7839.6267 | 1.94756 | 7854.3906 | 1.94796 | 7869 1684 |
| 9/16 | 1.94717 | 7840.5491 | 1.94758 | 7855.3138 | 1.94799 | 7870.0925 |
| 5/8 | 1.94720 | 7841.4715 | 1.94761 | 7856.2371 | 1.94802 | 7871.0166 |
| 11/16 | 1.94722 | 7842.3939 | 1.94763 | 7857.1604 | 1.94804 | 7871.9408 |
| 3/4 | 1.94725 | 7843.3164 | 1.94766 | 7858.0838 | 1.94807 | 7872.8650 |
| 13/16 | 1.94728 | 7844.2390 | 1.94768 | 7859.0072 | 1.94809 | 7873.7893 |
| 7/8 | 1.94730 | 7845.1616 | 1.94771 | 7859.9307 | 1.94812 | 7874.7137 |
| 15/16 | 1.94733 | 7846.0842 | 1.94773 | 7860.8542 | 1.94814 | 7875.6380 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.94817 | 7876.5625 | 1.94858 | 7891.3611 | 1.94898 | 7906.1736 |
| 1/16 | 1.94819 | 7877.4870 | 1.94860 | 7892.2865 | 1.94901 | 7907.0999 |
| 1/8 | 1.94822 | 7878.4116 | 1.94863 | 7893.2119 | 1.94903 | 7908.0262 |
| 3/16 | 1.94824 | 7879.3362 | 1.94865 | 7894.1374 | 1.94906 | 7908.9525 |
| 1/4 | 1.94827 | 7880.2609 | 1.94868 | 7895.0629 | 1.94908 | 7909.8789 |
| 5/16 | 1.94830 | 7881.1856 | 1.94870 | 7895.9885 | 1.94911 | 7910.8054 |
| 3/8 | 1.94832 | 7882.1104 | 1.94873 | 7896.9142 | 1.94914 | 7911.7319 |
| 7/16 | 1.94835 | 7883.0352 | 1.94875 | 7897.8399 | 1.94916 | 7912.6584 |
| 1/2 | 1.94837 | 7883.9601 | 1.94878 | 7898.7656 | 1.94919 | 7913.5851 |
| 9/16 | 1.94840 | 7884.8850 | 1.94881 | 7899.6914 | 1.94921 | 7914.5117 |
| 5/8 | 1.94842 | 7885.8100 | 1.94883 | 7900.6173 | 1.94924 | 7915.4385 |
| 11/16 | 1.94845 | 7886.7351 | 1.94886 | 7901.5432 | 1.94926 | 7916.3653 |
| 3/4 | 1.94847 | 7887.6602 | 1.94888 | 7902.4692 | 1.94929 | 7917.2921 |
| 13/16 | 1.94850 | 7888.5853 | 1.94891 | 7903.3952 | 1.94931 | 7918.2190 |
| 7/8 | 1.94853 | 7889.5105 | 1.94893 | 7904.3213 | 1.94934 | 7919.1459 |
| 15/16 | 1.94855 | 7890.4358 | 1.94896 | 7905.2474 | 1.94936 | 7920.0729 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.94939 | 7921.0000 | 1.94980 | 7935.8403 | 1.95020 | 7950.6944 |
| 1/16 | 1.94942 | 7921.9271 | 1.94982 | 7936.7683 | 1.95023 | 7951.6233 |
| 1/8 | 1.94944 | 7922.8543 | 1.94985 | 7937.6963 | 1.95025 | 7952.5522 |
| 3/16 | 1.94947 | 7923.7815 | 1.94987 | 7938.6244 | 1.95028 | 7953.4811 |
| 1/4 | 1.94949 | 7924.7088 | 1.94990 | 7939.5525 | 1.95030 | 7954.4102 |
| 5/16 | 1.94952 | 7925.6361 | 1.94992 | 7940.4807 | 1.95033 | 7955.3392 |
| 3/8 | 1.94954 | 7926.5635 | 1.94995 | 7941.4090 | 1.95035 | 7956.2683 |
| 7/16 | 1.94957 | 7927.4909 | 1.94997 | 7942.3373 | 1.95038 | 7957.1975 |
| 1/2 | 1.94959 | 7928.4184 | 1.95000 | 7943.2656 | 1.95041 | 7958.1267 |
| 9/16 | 1.94962 | 7929.3459 | 1.95002 | 7944.1940 | 1.95043 | 7959.0560 |
| 5/8 | 1.94964 | 7930.2735 | 1.95005 | 7945.1225 | 1.95046 | 7959.9854 |
| 11/16 | 1.94967 | 7931.2012 | 1.95008 | 7946.0510 | 1.95048 | 7960.9147 |
| 3/4 | 1.94969 | 7932.1289 | 1.95010 | 7946.9796 | 1.95051 | 7961.8442 |
| 13/16 | 1.94972 | 7933.0567 | 1.95013 | 7947.9082 | 1.95053 | 7962.7737 |
| 7/8 | 1.94975 | 7933.9845 | 1.95015 | 7948.8369 | 1.95056 | 7963.7032 |
| 15/16 | 1.94977 | 7934.9124 | 1.95018 | 7949.7657 | 1.95058 | 7964.6328 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.95061 | 7965.5625 | 1.95101 | 7980.4444 | 1.95142 | 7995.3403 |
| 1/16 | 1.95063 | 7966.4922 | 1.95104 | 7981.3750 | 1.95144 | 7996.2717 |
| 1/8 | 1.95066 | 7967.4220 | 1.95106 | 7982.3057 | 1.95147 | 7997.2032 |
| 3/16 | 1.95068 | 7968.3518 | 1.95109 | 7983.2364 | 1.95149 | 7998.1348 |
| 1/4 | 1.95071 | 7969.2817 | 1.95111 | 7984.1671 | 1.95152 | 7999.0664 |
| 5/16 | 1.95073 | 7970.2116 | 1.95114 | 7985.0979 | 1.95154 | 7999.9981 |
| 3/8 | 1.95076 | 7971.1416 | 1.95117 | 7986.0288 | 1.95157 | 8000.9298 |
| 7/16 | 1.95079 | 7972.0716 | 1.95119 | 7986.9597 | 1.95160 | 8001.8616 |
| 1/2 | 1.95081 | 7973.0017 | 1.95122 | 7987.8906 | 1.95162 | 8002.7934 |
| 9/16 | 1.95084 | 7973.9319 | 1.95124 | 7988.8216 | 1.95165 | 8003.7253 |
| 5/8 | 1.95086 | 7974.8621 | 1.95127 | 7989.7527 | 1.95167 | 8004.6572 |
| 11/16 | 1.95089 | 7975.7923 | 1.95129 | 7990.6838 | 1.95170 | 8005.5892 |
| 3/4 | 1.95091 | 7976.7227 | 1.95132 | 7991.6150 | 1.95172 | 8006.5213 |
| 13/16 | 1.95094 | 7977.6530 | 1.95134 | 7992.5463 | 1.95175 | 8007.4534 |
| 7/8 | 1.95096 | 7978.5834 | 1.95137 | 7993.4775 | 1.95177 | 8008.3855 |
| 15/16 | 1.95099 | 7979.5139 | 1.95139 | 7994.4089 | 1.95180 | 8009.3177 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.95182 | 8010.2500 | 1.95223 | 8025.1736 | 1.95263 | 8040.1111 |
| 1/16 | 1.95185 | 8011.1823 | 1.95225 | 8026.1068 | 1.95266 | 8041.0452 |
| 1/8 | 1.95187 | 8012.1147 | 1.95228 | 8027.0400 | 1.95268 | 8041.9793 |
| 3/16 | 1.95190 | 8013.0471 | 1.95230 | 8027.9733 | 1.95271 | 8042.9134 |
| 1/4 | 1.95192 | 8013.9796 | 1.95233 | 8028.9067 | 1.95273 | 8043.8477 |
| 5/16 | 1.95195 | 8014.9121 | 1.95235 | 8029.8401 | 1.95276 | 8044.7819 |
| 3/8 | 1.95197 | 8015.8447 | 1.95238 | 8030.7735 | 1.95278 | 8045.7163 |
| 7/16 | 1.95200 | 8016.7774 | 1.95240 | 8031.7071 | 1.95281 | 8046.6506 |
| 1/2 | 1.95203 | 8017.7101 | 1.95243 | 8032.6406 | 1.95283 | 8047.5851 |
| 9/16 | 1.95205 | 8018.6428 | 1.95245 | 8033.5742 | 1.95286 | 8048.5196 |
| 5/8 | 1.95208 | 8019.5756 | 1.95248 | 8034.5079 | 1.95288 | 8049.4541 |
| 11/16 | 1.95210 | 8020.5085 | 1.95250 | 8035.4417 | 1.95291 | 8050.3887 |
| 3/4 | 1.95213 | 8021.4414 | 1.95253 | 8036.3754 | 1.95293 | 8051.3234 |
| 13/16 | 1.95215 | 8022.3744 | 1.95256 | 8037.3093 | 1.95296 | 8052.2581 |
| 7/8 | 1.95218 | 8023.3074 | 1.95258 | 8038.2432 | 1.95298 | 8053.1928 |
| 15/16 | 1.95220 | 8024.2405 | 1.95261 | 8039.1771 | 1.95301 | 8054.1276 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.95303 | 8055.0625 | 1.95344 | 8070.0278 | 1.95384 | 8085.0069 |
| 1/16 | 1.95306 | 8055.9974 | 1.95346 | 8070.9636 | 1.95387 | 8085.9436 |
| 1/8 | 1.95308 | 8056.9324 | 1.95349 | 8071.8994 | 1.95389 | 8086.8803 |
| 3/16 | 1.95311 | 8057.8674 | 1.95351 | 8072.8353 | 1.95392 | 8087.8171 |
| 1/4 | 1.95314 | 8058.8025 | 1.95354 | 8073.7713 | 1.95394 | 8088.7539 |
| 5/16 | 1.95316 | 8059.7377 | 1.95356 | 8074.7073 | 1.95397 | 8089.6908 |
| 3/8 | 1.95319 | 8060.6729 | 1.95359 | 8075.6433 | 1.95399 | 8090.6277 |
| 7/16 | 1.95321 | 8061.6081 | 1.95361 | 8076.5795 | 1.95402 | 8091.5647 |
| 1/2 | 1.95324 | 8062.5434 | 1.95364 | 8077.5156 | 1.95404 | 8092.5017 |
| 9/16 | 1.95326 | 8063.4788 | 1.95366 | 8078.4519 | 1.95407 | 8093.4388 |
| 5/8 | 1.95329 | 8064.4142 | 1.95369 | 8079.3881 | 1.95409 | 8094.3760 |
| 11/16 | 1.95331 | 8065.3496 | 1.95371 | 8080.3245 | 1.95412 | 8095.3132 |
| 3/4 | 1.95334 | 8066.2852 | 1.95374 | 8081.2609 | 1.95414 | 8096.2504 |
| 13/16 | 1.95336 | 8067.2207 | 1.95376 | 8082.1973 | 1.95417 | 8097.1877 |
| 7/8 | 1.95339 | 8068.1564 | 1.95379 | 8083.1338 | 1.95419 | 8098.1251 |
| 15/16 | 1.95341 | 8069.0920 | 1.95382 | 8084.0703 | 1.95422 | 8099.0625 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.95424 | 8100.0000 | 1.95464 | 8115.0069 | 1.95505 | 8130.0278 |
| 1/16 | 1.95427 | 8100.9375 | 1.95467 | 8115.9453 | 1.95507 | 8130.9670 |
| 1/8 | 1.95429 | 8101.8751 | 1.95469 | 8116.8838 | 1.95510 | 8131.9064 |
| 3/16 | 1.95432 | 8102.8127 | 1.95472 | 8117.8223 | 1.95512 | 8132.8457 |
| 1/4 | 1.95434 | 8103.7504 | 1.95474 | 8118.7609 | 1.95515 | 8133.7852 |
| 5/16 | 1.95437 | 8104.6882 | 1.95477 | 8119.6995 | 1.95517 | 8134.7246 |
| 3/8 | 1.95439 | 8105.6260 | 1.95480 | 8120.6381 | 1.95520 | 8135.6642 |
| 7/16 | 1.95442 | 8106.5638 | 1.95482 | 8121.5769 | 1.95522 | 8136.6038 |
| 1/2 | 1.95444 | 8107.5017 | 1.95485 | 8122.5156 | 1.95525 | 8137.5434 |
| 9/16 | 1.95447 | 8108.4397 | 1.95487 | 8123.4545 | 1.95527 | 8138.4831 |
| 5/8 | 1.95449 | 8109.3777 | 1.95490 | 8124.3933 | 1.95530 | 8139.4229 |
| 11/16 | 1.95452 | 8110.3158 | 1.95492 | 8125.3323 | 1.95532 | 8140.3627 |
| 3/4 | 1.95454 | 8111.2539 | 1.95495 | 8126.2713 | 1.95535 | 8141.3025 |
| 13/16 | 1.95457 | 8112.1921 | 1.95497 | 8127.2103 | 1.95537 | 8142.2424 |
| 7/8 | 1.95459 | 8113.1303 | 1.95500 | 8128.1494 | 1.95540 | 8143.1824 |
| 15/16 | 1.95462 | 8114.0686 | 1.95502 | 8129.0886 | 1.95542 | 8144.1224 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.95545 | 8145.0625 | 1.95585 | 8160.1111 | 1.95625 | 8175.1736 |
| 1/16 | 1.95547 | 8146.0026 | 1.95587 | 8161.0521 | 1.95627 | 8176.1155 |
| 1/8 | 1.95550 | 8146.9428 | 1.95590 | 8161.9932 | 1.95630 | 8177.0574 |
| 3/16 | 1.95552 | 8147.8831 | 1.95592 | 8162.9343 | 1.95632 | 8177.9994 |
| 1/4 | 1.95555 | 8148.8234 | 1.95595 | 8163.8754 | 1.95635 | 8178.9414 |
| 5/16 | 1.95557 | 8149.7637 | 1.95597 | 8164.8167 | 1.95637 | 8179.8835 |
| 3/8 | 1.95560 | 8150.7041 | 1.95600 | 8165.7579 | 1.95640 | 8180.8256 |
| 7/16 | 1.95562 | 8151.6446 | 1.95602 | 8166.6992 | 1.95642 | 8181.7678 |
| 1/2 | 1.95565 | 8152.5851 | 1.95605 | 8167.6406 | 1.95645 | 8182.7101 |
| 9/16 | 1.95567 | 8153.5256 | 1.95607 | 8168.5821 | 1.95647 | 8183.6524 |
| 5/8 | 1.95570 | 8154.4663 | 1.95610 | 8169.5235 | 1.95650 | 8184.5947 |
| 11/16 | 1.95572 | 8155.4069 | 1.95612 | 8170.4651 | 1.95652 | 8185.5371 |
| 3/4 | 1.95575 | 8156.3477 | 1.95615 | 8171.4067 | 1.95655 | 8186.4796 |
| 13/16 | 1.95577 | 8157.2884 | 1.95617 | 8172.3483 | 1.95657 | 8187.4221 |
| 7/8 | 1.95580 | 8158.2293 | 1.95620 | 8173.2900 | 1.95660 | 8188.3647 |
| 15/16 | 1.95582 | 8159.1702 | 1.95622 | 8174.2318 | 1.95662 | 8189.3073 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.95665 | 8190.2500 | 1.95705 | 8205.3403 | 1.95745 | 8220.4444 |
| 1/16 | 1.95667 | 8191.1927 | 1.95707 | 8206.2839 | 1.95747 | 8221.3889 |
| 1/8 | 1.95670 | 8192.1355 | 1.95710 | 8207.2275 | 1.95750 | 8222.3334 |
| 3/16 | 1.95672 | 8193.0784 | 1.95712 | 8208.1713 | 1.95752 | 8223.2780 |
| 1/4 | 1.95675 | 8194.0213 | 1.95715 | 8209.1150 | 1.95755 | 8224.2227 |
| 5/16 | 1.95677 | 8194.9642 | 1.95717 | 8210.0588 | 1.95757 | 8225.1673 |
| 3/8 | 1.95680 | 8195.9072 | 1.95720 | 8211.0027 | 1.95760 | 8226.1121 |
| 7/16 | 1.95682 | 8196.8503 | 1.95722 | 8211.9466 | 1.95762 | 8227.0569 |
| 1/2 | 1.95685 | 8197.7934 | 1.95725 | 8212.8906 | 1.95765 | 8228.0017 |
| 9/16 | 1.95687 | 8198.7366 | 1.95727 | 8213.8347 | 1.95767 | 8228.9466 |
| 5/8 | 1.95690 | 8199.6798 | 1.95730 | 8214.7788 | 1.95770 | 8229.8916 |
| 11/16 | 1.95692 | 8200.6231 | 1.95732 | 8215.7229 | 1.95772 | 8230.8366 |
| 3/4 | 1.95695 | 8201.5664 | 1.95735 | 8216.6671 | 1.95775 | 8231.7817 |
| 13/16 | 1.95697 | 8202.5098 | 1.95737 | 8217.6114 | 1.95777 | 8232.7268 |
| 7/8 | 1.95700 | 8203.4532 | 1.95740 | 8218.5557 | 1.95780 | 8233.6720 |
| 15/16 | 1.95702 | 8204.3967 | 1.95742 | 8219.5000 | 1.95782 | 8234.6172 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.95785 | 8235.5625 | 1.95825 | 8250.6944 | 1.95864 | 8265.8403 |
| 1/16 | 1.95787 | 8236.5078 | 1.95827 | 8251.6407 | 1.95867 | 8266.7874 |
| 1/8 | 1.95790 | 8237.4532 | 1.95830 | 8252.5869 | 1.95869 | 8267.7345 |
| 3/16 | 1.95792 | 8238.3987 | 1.95832 | 8253.5332 | 1.95872 | 8268.6817 |
| 1/4 | 1.95795 | 8239.3442 | 1.95834 | 8254.4796 | 1.95874 | 8269.6289 |
| 5/16 | 1.95797 | 8240.2897 | 1.95837 | 8255.4260 | 1.95877 | 8270.5762 |
| 3/8 | 1.95800 | 8241.2354 | 1.95839 | 8256.3725 | 1.95879 | 8271.5235 |
| 7/16 | 1.95802 | 8242.1810 | 1.95842 | 8257.3190 | 1.95882 | 8272.4709 |
| 1/2 | 1.95805 | 8243.1267 | 1.95844 | 8258.2656 | 1.95884 | 8273.4184 |
| 9/16 | 1.95807 | 8244.0725 | 1.95847 | 8259.2123 | 1.95887 | 8274.3659 |
| 5/8 | 1.95810 | 8245.0183 | 1.95849 | 8260.1590 | 1.95889 | 8275.3135 |
| 11/16 | 1.95812 | 8245.9642 | 1.95852 | 8261.1057 | 1.95892 | 8276.2611 |
| 3/4 | 1.95815 | 8246.9102 | 1.95854 | 8262.0525 | 1.95894 | 8277.2088 |
| 13/16 | 1.95817 | 8247.8561 | 1.95857 | 8262.9994 | 1.95897 | 8278.1565 |
| 7/8 | 1.95820 | 8248.8022 | 1.95859 | 8263.9463 | 1.95899 | 8279.1043 |
| 15/16 | 1.95822 | 8249.7483 | 1.95862 | 8264.8933 | 1.95902 | 8280.0521 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.95904 | 8281.0000 | 1.95944 | 8296.1736 | 1.95984 | 8311.3611 |
| 1/16 | 1.95907 | 8281.9479 | 1.95946 | 8297.1224 | 1.95986 | 8312.3108 |
| 1/8 | 1.95909 | 8282.8959 | 1.95949 | 8298.0713 | 1.95989 | 8313.2605 |
| 3/16 | 1.95912 | 8283.8440 | 1.95951 | 8299.0202 | 1.95991 | 8314.2103 |
| 1/4 | 1.95914 | 8284.7921 | 1.95954 | 8299.9692 | 1.95994 | 8315.1602 |
| 5/16 | 1.95917 | 8285.7403 | 1.95956 | 8300.9182 | 1.95996 | 8316.1101 |
| 3/8 | 1.95919 | 8286.6885 | 1.95959 | 8301.8673 | 1.95998 | 8317.0600 |
| 7/16 | 1.95922 | 8287.6367 | 1.95961 | 8302.8164 | 1.96001 | 8318.0100 |
| 1/2 | 1.95924 | 8288.5851 | 1.95964 | 8303.7656 | 1.96003 | 8318.9601 |
| 9/16 | 1.95927 | 8289.5334 | 1.95966 | 8304.7149 | 1.96006 | 8319.9102 |
| 5/8 | 1.95929 | 8290.4819 | 1.95969 | 8305.6642 | 1.96008 | 8320.8604 |
| 11/16 | 1.95931 | 8291.4304 | 1.95971 | 8306.6135 | 1.96011 | 8321.8106 |
| 3/4 | 1.95934 | 8292.3789 | 1.95974 | 8307.5629 | 1.96013 | 8322.7609 |
| 13/16 | 1.95936 | 8293.3275 | 1.95976 | 8308.5124 | 1.96016 | 8323.7112 |
| 7/8 | 1.95939 | 8294.2762 | 1.95979 | 8309.4619 | 1.96018 | 8324.6616 |
| 15/16 | 1.95941 | 8295.2249 | 1.95981 | 8310.4115 | 1.96021 | 8325.6120 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.96023 | 8326.5625 | 1.96063 | 8341.7778 | 1.96103 | 8357.0069 |
| 1/16 | 1.96026 | 8327.5130 | 1.96065 | 8342.7292 | 1.96105 | 8357.9592 |
| 1/8 | 1.96028 | 8328.4637 | 1.96068 | 8343.6807 | 1.96107 | 8358.9116 |
| 3/16 | 1.96031 | 8329.4143 | 1.96070 | 8344.6322 | 1.96110 | 8359.8640 |
| 1/4 | 1.96033 | 8330.3650 | 1.96073 | 8345.5838 | 1.96112 | 8360.8164 |
| 5/16 | 1.96036 | 8331.3158 | 1.96075 | 8346.5354 | 1.96115 | 8361.7689 |
| 3/8 | 1.96038 | 8332.2666 | 1.96078 | 8347.4871 | 1.96117 | 8362.7215 |
| 7/16 | 1.96041 | 8333.2175 | 1.96080 | 8348.4388 | 1.96120 | 8363.6741 |
| 1/2 | 1.96043 | 8334.1684 | 1.96083 | 8349.3906 | 1.96122 | 8364.6267 |
| 9/16 | 1.96046 | 8335.1194 | 1.96085 | 8350.3425 | 1.96125 | 8365.5795 |
| 5/8 | 1.96048 | 8336.0704 | 1.96088 | 8351.2944 | 1.96127 | 8366.5322 |
| 11/16 | 1.96051 | 8337.0215 | 1.96090 | 8352.2463 | 1.96130 | 8367.4851 |
| 3/4 | 1.96053 | 8337.9727 | 1.96093 | 8353.1984 | 1.96132 | 8368.4379 |
| 13/16 | 1.96056 | 8338.9239 | 1.96095 | 8354.1504 | 1.96135 | 8369.3909 |
| 7/8 | 1.96058 | 8339.8751 | 1.96098 | 8355.1025 | 1.96137 | 8370.3439 |
| 15/16 | 1.96060 | 8340.8264 | 1.96100 | 8356.0547 | 1.96140 | 8371.2969 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.96142 | 8372.2500 | 1.96182 | 8387.5069 | 1.96221 | 8402.7778 |
| 1/16 | 1.96145 | 8373.2032 | 1.96184 | 8388.4610 | 1.96224 | 8403.7327 |
| 1/8 | 1.96147 | 8374.1564 | 1.96187 | 8389.4150 | 1.96226 | 8404.6876 |
| 3/16 | 1.96150 | 8375.1096 | 1.96189 | 8390.3692 | 1.96229 | 8405.6426 |
| 1/4 | 1.96152 | 8376.0629 | 1.96192 | 8391.3234 | 1.96231 | 8406.5977 |
| 5/16 | 1.96154 | 8377.0163 | 1.96194 | 8392.2776 | 1.96233 | 8407.5528 |
| 3/8 | 1.96157 | 8377.9697 | 1.96196 | 8393.2319 | 1.96236 | 8408.5079 |
| 7/16 | 1.96159 | 8378.9232 | 1.96199 | 8394.1862 | 1.96238 | 8409.4631 |
| 1/2 | 1.96162 | 8379.8767 | 1.96201 | 8395.1406 | 1.96241 | 8410.4184 |
| 9/16 | 1.96164 | 8380.8303 | 1.96204 | 8396.0951 | 1.96243 | 8411.3737 |
| 5/8 | 1.96167 | 8381.7840 | 1.96206 | 8397.0496 | 1.96246 | 8412.3291 |
| 11/16 | 1.96169 | 8382.7377 | 1.96209 | 8398.0042 | 1.96248 | 8413.2845 |
| 3/4 | 1.96172 | 8383.6914 | 1.96211 | 8398.9588 | 1.96251 | 8414.2400 |
| 13/16 | 1.96174 | 8384.6452 | 1.96214 | 8399.9134 | 1.96253 | 8415.1956 |
| 7/8 | 1.96177 | 8385.5991 | 1.96216 | 8400.8682 | 1.96256 | 8416.1512 |
| 15/16 | 1.96179 | 8386.5530 | 1.96219 | 8401.8229 | 1.96258 | 8417.1068 |

| Fraction of an inch | 9″ | | 10′ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.96261 | 8418.0625 | 1.96300 | 8433.3611 | 1.96339 | 8448.6736 |
| 1/16 | 1.96263 | 8419.0183 | 1.96302 | 8434.3177 | 1.96342 | 8449.6311 |
| 1/8 | 1.96266 | 8419.9741 | 1.96305 | 8435.2744 | 1.96344 | 8450.5887 |
| 3/16 | 1.96268 | 8420.9299 | 1.96307 | 8436.2311 | 1.96347 | 8451.5463 |
| 1/4 | 1.96270 | 8421.8859 | 1.96310 | 8437.1879 | 1.96349 | 8452.5039 |
| 5/16 | 1.96273 | 8422.8418 | 1.96312 | 8438.1448 | 1.96352 | 8453.4616 |
| 3/8 | 1.96275 | 8423.7979 | 1.96315 | 8439.1017 | 1.96354 | 8454.4194 |
| 7/16 | 1.96278 | 8424.7539 | 1.96317 | 8440.0586 | 1.96357 | 8455.3772 |
| 1/2 | 1.96280 | 8425.7101 | 1.96320 | 8441.0156 | 1.96359 | 8456.3351 |
| 9/16 | 1.96283 | 8426.6663 | 1.96322 | 8441.9727 | 1.96362 | 8457.2930 |
| 5/8 | 1.96285 | 8427.6225 | 1.96325 | 8442.9298 | 1.96364 | 8458.2510 |
| 11/16 | 1.96288 | 8428.5788 | 1.96327 | 8443.8870 | 1.96366 | 8459.2090 |
| 3/4 | 1.96290 | 8429.5352 | 1.96330 | 8444.8442 | 1.96369 | 8460.1671 |
| 13/16 | 1.96293 | 8430.4916 | 1.96332 | 8445.8015 | 1.96371 | 8461.1252 |
| 7/8 | 1.96295 | 8431.4480 | 1.96335 | 8446.7588 | 1.96374 | 8462.0834 |
| 15/16 | 1.96298 | 8432.4045 | 1.96337 | 8447.7162 | 1.96376 | 8463.0417 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.96379 | 8464.0000 | 1.96418 | 8479.3403 | 1.96457 | 8494.6944 |
| 1/16 | 1.96381 | 8464.9584 | 1.96421 | 8480.2995 | 1.96460 | 8495.6545 |
| 1/8 | 1.96384 | 8465.9168 | 1.96423 | 8481.2588 | 1.96462 | 8496.6147 |
| 3/16 | 1.96386 | 8466.8752 | 1.96425 | 8482.2181 | 1.96465 | 8497.5749 |
| 1/4 | 1.96389 | 8467.8338 | 1.96428 | 8483.1775 | 1.96467 | 8498.5352 |
| 5/16 | 1.96391 | 8468.7923 | 1.96430 | 8484.1370 | 1.96470 | 8499.4955 |
| 3/8 | 1.96394 | 8469.7510 | 1.96433 | 8485.0965 | 1.96472 | 8500.4558 |
| 7/16 | 1.96396 | 8470.7097 | 1.96435 | 8486.0560 | 1.96475 | 8501.4163 |
| 1/2 | 1.96398 | 8471.6684 | 1.96438 | 8487.0156 | 1.96477 | 8502.3767 |
| 9/16 | 1.96401 | 8472.6272 | 1.96440 | 8487.9753 | 1.96479 | 8503.3373 |
| 5/8 | 1.96403 | 8473.5860 | 1.96443 | 8488.9350 | 1.96482 | 8504.2979 |
| 11/16 | 1.96406 | 8474.5449 | 1.96445 | 8489.8948 | 1.96484 | 8505.2585 |
| 3/4 | 1.96408 | 8475.5039 | 1.96448 | 8490.8546 | 1.96487 | 8506.2192 |
| 13/16 | 1.96411 | 8476.4629 | 1.96450 | 8491.8145 | 1.96489 | 8507.1799 |
| 7/8 | 1.96413 | 8477.4220 | 1.96452 | 8492.7744 | 1.96492 | 8508.1407 |
| 15/16 | 1.96416 | 8478.3811 | 1.96455 | 8493.7344 | 1.96494 | 8509.1016 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.96497 | 8510.0625 | 1.96536 | 8525.4444 | 1.96575 | 8540.8403 |
| 1/16 | 1.96499 | 8511.0235 | 1.96538 | 8526.4063 | 1.96577 | 8541.8030 |
| 1/8 | 1.96502 | 8511.9845 | 1.96541 | 8527.3682 | 1.96580 | 8542.7657 |
| 3/16 | 1.96504 | 8512.9456 | 1.96543 | 8528.3301 | 1.96582 | 8543.7285 |
| 1/4 | 1.96506 | 8513.9067 | 1.96546 | 8529.2921 | 1.96585 | 8544.6914 |
| 5/16 | 1.96509 | 8514.8679 | 1.96548 | 8530.2542 | 1.96587 | 8545.6543 |
| 3/8 | 1.96511 | 8515.8291 | 1.96551 | 8531.2163 | 1.96590 | 8546.6173 |
| 7/16 | 1.96514 | 8516.7904 | 1.96553 | 8532.1784 | 1.96592 | 8547.5803 |
| 1/2 | 1.96516 | 8517.7517 | 1.96555 | 8533.1406 | 1.96595 | 8548.5434 |
| 9/16 | 1.96519 | 8518.7131 | 1.96558 | 8534.1029 | 1.96597 | 8549.5065 |
| 5/8 | 1.96521 | 8519.6746 | 1.96560 | 8535.0652 | 1.96599 | 8550.4697 |
| 11/16 | 1.96524 | 8520.6361 | 1.96563 | 8536.0276 | 1.96602 | 8551.4330 |
| 3/4 | 1.96526 | 8521.5977 | 1.96565 | 8536.9900 | 1.96604 | 8552.3963 |
| 13/16 | 1.96529 | 8522.5593 | 1.96568 | 8537.9525 | 1.96607 | 8553.3596 |
| 7/8 | 1.96531 | 8523.5209 | 1.96570 | 8538.9150 | 1.96609 | 8554.3230 |
| 15/16 | 1.96533 | 8524.4827 | 1.96573 | 8539.8776 | 1.96612 | 8555.2865 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.96614 | 8556.2500 | 1.96653 | 8571.6736 | 1.96692 | 8587.1111 |
| 1/16 | 1.96617 | 8557.2136 | 1.96656 | 8572.6380 | 1.96695 | 8588.0764 |
| 1/8 | 1.96619 | 8558.1772 | 1.96658 | 8573.6025 | 1.96697 | 8589.0418 |
| 3/16 | 1.96622 | 8559.1409 | 1.96661 | 8574.5671 | 1.96700 | 8590.0072 |
| 1/4 | 1.96624 | 8560.1046 | 1.96663 | 8575.5317 | 1.96702 | 8590.9727 |
| 5/16 | 1.96626 | 8561.0684 | 1.96665 | 8576.4963 | 1.96705 | 8591.9382 |
| 3/8 | 1.96629 | 8562.0322 | 1.96668 | 8577.4610 | 1.96707 | 8592.9038 |
| 7/16 | 1.96631 | 8562.9961 | 1.96670 | 8578.4258 | 1.96709 | 8593.8694 |
| 1/2 | 1.96634 | 8563.9601 | 1.96673 | 8579.3906 | 1.96712 | 8594.8351 |
| 9/16 | 1.96636 | 8564.9241 | 1.96675 | 8580.3555 | 1.96714 | 8595.8008 |
| 5/8 | 1.96639 | 8565.8881 | 1.96678 | 8581.3204 | 1.96717 | 8596.7666 |
| 11/16 | 1.96641 | 8566.8522 | 1.96680 | 8582.2854 | 1.96719 | 8597.7324 |
| 3/4 | 1.96644 | 8567.8164 | 1.96683 | 8583.2504 | 1.96722 | 8598.6984 |
| 13/16 | 1.96646 | 8568.7806 | 1.96685 | 8584.2155 | 1.96724 | 8599.6643 |
| 7/8 | 1.96648 | 8569.7449 | 1.96687 | 8585.1807 | 1.96727 | 8600.6303 |
| 15/16 | 1.96651 | 8570.7092 | 1.96690 | 8586.1459 | 1.96729 | 8601.5964 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.96731 | 8602.5625 | 1.96770 | 8618.0278 | 1.96809 | 8633.5069 |
| 1/16 | 1.96734 | 8603.5287 | 1.96773 | 8618.9948 | 1.96812 | 8634.4749 |
| 1/8 | 1.96736 | 8604.4949 | 1.96775 | 8619.9619 | 1.96814 | 8635.4428 |
| 3/16 | 1.96739 | 8605.4612 | 1.96778 | 8620.9291 | 1.96817 | 8636.4108 |
| 1/4 | 1.96741 | 8606.4275 | 1.96780 | 8621.8963 | 1.96819 | 8637.3789 |
| 5/16 | 1.96744 | 8607.3939 | 1.96783 | 8622.8635 | 1.96822 | 8638.3470 |
| 3/8 | 1.96746 | 8608.3604 | 1.96785 | 8623.8308 | 1.96824 | 8639.3152 |
| 7/16 | 1.96748 | 8609.3269 | 1.96787 | 8624.7982 | 1.96826 | 8640.2834 |
| 1/2 | 1.96751 | 8610.2934 | 1.96790 | 8625.7656 | 1.96829 | 8641.2517 |
| 9/16 | 1.96753 | 8611.2600 | 1.96792 | 8626.7331 | 1.96831 | 8642.2201 |
| 5/8 | 1.96756 | 8612.2267 | 1.96795 | 8627.7006 | 1.96834 | 8643.1885 |
| 11/16 | 1.96758 | 8613.1934 | 1.96797 | 8628.6682 | 1.96836 | 8644.1569 |
| 3/4 | 1.96761 | 8614.1602 | 1.96800 | 8629.6359 | 1.96839 | 8645.1254 |
| 13/16 | 1.96763 | 8615.1270 | 1.96802 | 8630.6035 | 1.96841 | 8646.0940 |
| 7/8 | 1.96766 | 8616.0939 | 1.96804 | 8631.5713 | 1.96843 | 8647.0626 |
| 15/16 | 1.96768 | 8617.0608 | 1.96807 | 8632.5391 | 1.96846 | 8648.0313 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.96848 | 8649.0000 | 1.96887 | 8664.5069 | 1.96926 | 8680.0278 |
| 1/16 | 1.96851 | 8649.9688 | 1.96890 | 8665.4766 | 1.96928 | 8680.9983 |
| 1/8 | 1.96853 | 8650.9376 | 1.96892 | 8666.4463 | 1.96931 | 8681.9689 |
| 3/16 | 1.96856 | 8651.9065 | 1.96894 | 8667.4160 | 1.96933 | 8682.9395 |
| 1/4 | 1.96858 | 8652.8754 | 1.96897 | 8668.3859 | 1.96936 | 8683.9102 |
| 5/16 | 1.96860 | 8653.8444 | 1.96899 | 8669.3557 | 1.96938 | 8684.8809 |
| 3/8 | 1.96863 | 8654.8135 | 1.96902 | 8670.3256 | 1.96941 | 8685.8517 |
| 7/16 | 1.96865 | 8655.7826 | 1.96904 | 8671.2956 | 1.96943 | 8686.8225 |
| 1/2 | 1.96868 | 8656.7517 | 1.96907 | 8672.2656 | 1.96945 | 8687.7934 |
| 9/16 | 1.96870 | 8657.7209 | 1.96909 | 8673.2357 | 1.96948 | 8688.7644 |
| 5/8 | 1.96873 | 8658.6902 | 1.96911 | 8674.2058 | 1.96950 | 8689.7354 |
| 11/16 | 1.96875 | 8659.6595 | 1.96914 | 8675.1760 | 1.96953 | 8690.7064 |
| 3/4 | 1.96877 | 8660.6289 | 1.96916 | 8676.1463 | 1.96955 | 8691.6775 |
| 13/16 | 1.96880 | 8661.5983 | 1.96919 | 8677.1166 | 1.96958 | 8692.6487 |
| 7/8 | 1.96882 | 8662.5678 | 1.96921 | 8678.0869 | 1.96960 | 8693.6199 |
| 15/16 | 1.96885 | 8663.5374 | 1.96924 | 8679.0573 | 1.96962 | 8694.5912 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.96964 | 8695.5625 | 1.97004 | 8711.1111 | 1.97042 | 8726.6736 |
| 1/16 | 1.96967 | 8696.5339 | 1.97006 | 8712.0834 | 1.97045 | 8727.6467 |
| 1/8 | 1.96970 | 8697.5053 | 1.97009 | 8713.0557 | 1.97047 | 8728.6199 |
| 3/16 | 1.96972 | 8698.4768 | 1.97011 | 8714.0280 | 1.97050 | 8729.5931 |
| 1/4 | 1.96975 | 8699.4484 | 1.97013 | 8715.0004 | 1.97052 | 8730.5664 |
| 5/16 | 1.96977 | 8700.4199 | 1.97016 | 8715.9729 | 1.97055 | 8731.5397 |
| 3/8 | 1.96979 | 8701.3916 | 1.97018 | 8716.9454 | 1.97057 | 8732.5131 |
| 7/16 | 1.96982 | 8702.3633 | 1.97021 | 8717.9180 | 1.97059 | 8733.4866 |
| 1/2 | 1.96984 | 8703.3351 | 1.97023 | 8718.8906 | 1.97062 | 8734.4601 |
| 9/16 | 1.96987 | 8704.3069 | 1.97025 | 8719.8633 | 1.97064 | 8735.4336 |
| 5/8 | 1.96989 | 8705.2788 | 1.97028 | 8720.8360 | 1.97067 | 8736.4072 |
| 11/16 | 1.96992 | 8706.2507 | 1.97030 | 8721.8088 | 1.97069 | 8737.3809 |
| 3/4 | 1.96994 | 8707.2227 | 1.97033 | 8722.7817 | 1.97071 | 8738.3546 |
| 13/16 | 1.96996 | 8708.1947 | 1.97035 | 8723.7546 | 1.97074 | 8739.3284 |
| 7/8 | 1.96999 | 8709.1668 | 1.97038 | 8724.7275 | 1.97076 | 8740.3022 |
| 15/16 | 1.97001 | 8710.1389 | 1.97040 | 8725.7005 | 1.97079 | 8741.2761 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.97081 | 8742.2500 | 1.97120 | 8757.8403 | 1.97159 | 8773.4444 |
| 1/16 | 1.97084 | 8743.2240 | 1.97122 | 8758.8151 | 1.97161 | 8774.4202 |
| 1/8 | 1.97086 | 8744.1980 | 1.97125 | 8759.7900 | 1.97163 | 8775.3959 |
| 3/16 | 1.97088 | 8745.1721 | 1.97127 | 8760.7650 | 1.97166 | 8776.3718 |
| 1/4 | 1.97091 | 8746.1463 | 1.97130 | 8761.7400 | 1.97168 | 8777.3477 |
| 5/16 | 1.97093 | 8747.1205 | 1.97132 | 8762.7151 | 1.97171 | 8778.3236 |
| 3/8 | 1.97096 | 8748.0947 | 1.97134 | 8763.6902 | 1.97173 | 8779.2996 |
| 7/16 | 1.97098 | 8749.0690 | 1.97137 | 8764.6654 | 1.97175 | 8780.2756 |
| 1/2 | 1.97101 | 8750.0434 | 1.97139 | 8765.6406 | 1.97178 | 8781.2517 |
| 9/16 | 1.97103 | 8751.0178 | 1.97142 | 8766.6159 | 1.97180 | 8782.2279 |
| 5/8 | 1.97105 | 8751.9923 | 1.97144 | 8767.5913 | 1.97183 | 8783.2041 |
| 11/16 | 1.97108 | 8752.9668 | 1.97146 | 8768.5667 | 1.97185 | 8784.1804 |
| 3/4 | 1.97110 | 8753.9414 | 1.97149 | 8769.5421 | 1.97187 | 8785.1567 |
| 13/16 | 1.97113 | 8754.9160 | 1.97151 | 8770.5176 | 1.97190 | 8786.1331 |
| 7/8 | 1.97115 | 8755.8907 | 1.97154 | 8771.4932 | 1.97192 | 8787.1095 |
| 15/16 | 1.97117 | 8756.8655 | 1.97156 | 8772.4688 | 1.97195 | 8788.0860 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.97197 | 8789.0625 | 1.97236 | 8804.6944 | 1.97274 | 8820.3403 |
| 1/16 | 1.97200 | 8790.0391 | 1.97238 | 8805.6719 | 1.97277 | 8821.3186 |
| 1/8 | 1.97202 | 8791.0157 | 1.97241 | 8806.6494 | 1.97279 | 8822.2970 |
| 3/16 | 1.97204 | 8791.9924 | 1.97243 | 8807.6270 | 1.97281 | 8823.2754 |
| 1/4 | 1.97207 | 8792.9692 | 1.97245 | 8808.6046 | 1.97284 | 8824.2539 |
| 5/16 | 1.97209 | 8793.9460 | 1.97248 | 8809.5823 | 1.97286 | 8825.2324 |
| 3/8 | 1.97212 | 8794.9229 | 1.97250 | 8810.5600 | 1.97289 | 8826.2110 |
| 7/16 | 1.97214 | 8795.8998 | 1.97253 | 8811.5378 | 1.97291 | 8827.1897 |
| 1/2 | 1.97216 | 8796.8767 | 1.97255 | 8812.5156 | 1.97294 | 8828.1684 |
| 9/16 | 1.97219 | 8797.8538 | 1.97257 | 8813.4935 | 1.97296 | 8829.1472 |
| 5/8 | 1.97221 | 8798.8308 | 1.97260 | 8814.4715 | 1.97298 | 8830.1260 |
| 11/16 | 1.97224 | 8799.8080 | 1.97262 | 8815.4495 | 1.97301 | 8831.1048 |
| 3/4 | 1.97226 | 8800.7852 | 1.97265 | 8816.4275 | 1.97303 | 8832.0838 |
| 13/16 | 1.97228 | 8801.7624 | 1.97267 | 8817.4056 | 1.97306 | 8833.0627 |
| 7/8 | 1.97231 | 8802.7397 | 1.97269 | 8818.3838 | 1.97308 | 8834.0418 |
| 15/16 | 1.97233 | 8803.7170 | 1.97272 | 8819.3620 | 1.97310 | 8835.0209 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.97313 | 8836.0000 | 1.97351 | 8851.6736 | 1.97390 | 8867.3611 |
| 1/16 | 1.97315 | 8836.9792 | 1.97354 | 8852.6537 | 1.97392 | 8868.3420 |
| 1/8 | 1.97318 | 8837.9584 | 1.97356 | 8853.6338 | 1.97395 | 8869.3230 |
| 3/16 | 1.97320 | 8838.9377 | 1.97358 | 8854.6140 | 1.97397 | 8870.3041 |
| 1/4 | 1.97322 | 8839.9171 | 1.97361 | 8855.5942 | 1.97399 | 8871.2852 |
| 5/16 | 1.97325 | 8840.8965 | 1.97363 | 8856.5745 | 1.97402 | 8872.2663 |
| 3/8 | 1.97327 | 8841.8760 | 1.97366 | 8857.5548 | 1.97404 | 8873.2475 |
| 7/16 | 1.97330 | 8842.8555 | 1.97368 | 8858.5352 | 1.97407 | 8874.2288 |
| 1/2 | 1.97332 | 8843.8351 | 1.97370 | 8859.5156 | 1.97409 | 8875.2101 |
| 9/16 | 1.97334 | 8844.8147 | 1.97373 | 8860.4961 | 1.97411 | 8876.1914 |
| 5/8 | 1.97337 | 8845.7944 | 1.97375 | 8861.4767 | 1.97414 | 8877.1729 |
| 11/16 | 1.97339 | 8846.7741 | 1.97378 | 8862.4573 | 1.97416 | 8878.1543 |
| 3/4 | 1.97342 | 8847.7539 | 1.97380 | 8863.4379 | 1.97419 | 8879.1359 |
| 13/16 | 1.97344 | 8848.7338 | 1.97383 | 8864.4186 | 1.97421 | 8880.1174 |
| 7/8 | 1.97346 | 8849.7137 | 1.97385 | 8865.3994 | 1.97423 | 8881.0991 |
| 15/16 | 1.97349 | 8850.6936 | 1.97387 | 8866.3802 | 1.97426 | 8882.0808 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.97428 | 8883.0625 | 1.97467 | 8898.7778 | 1.97505 | 8914.5069 |
| 1/16 | 1.97431 | 8884.0443 | 1.97469 | 8899.7604 | 1.97507 | 8915.4905 |
| 1/8 | 1.97433 | 8885.0262 | 1.97471 | 8900.7432 | 1.97510 | 8916.4741 |
| 3/16 | 1.97435 | 8886.0081 | 1.97474 | 8901.7259 | 1.97512 | 8917.4577 |
| 1/4 | 1.97438 | 8886.9900 | 1.97476 | 8902.7088 | 1.97514 | 8918.4414 |
| 5/16 | 1.97440 | 8887.9720 | 1.97479 | 8903.6917 | 1.97517 | 8919.4252 |
| 3/8 | 1.97443 | 8888.9541 | 1.97481 | 8904.6746 | 1.97519 | 8920.4090 |
| 7/16 | 1.97445 | 8889.9362 | 1.97483 | 8905.6576 | 1.97522 | 8921.3928 |
| 1/2 | 1.97447 | 8890.9184 | 1.97486 | 8906.6406 | 1.97524 | 8922.3767 |
| 9/16 | 1.97450 | 8891.9006 | 1.97488 | 8907.6237 | 1.97526 | 8923.3607 |
| 5/8 | 1.97452 | 8892.8829 | 1.97490 | 8908.6069 | 1.97529 | 8924.3447 |
| 11/16 | 1.97455 | 8893.8653 | 1.97493 | 8909.5901 | 1.97531 | 8925.3288 |
| 3/4 | 1.97457 | 8894.8477 | 1.97495 | 8910.5734 | 1.97534 | 8926.3129 |
| 13/16 | 1.97459 | 8895.8301 | 1.97498 | 8911.5567 | 1.97536 | 8927.2971 |
| 7/8 | 1.97462 | 8896.8126 | 1.97500 | 8912.5400 | 1.97538 | 8928.2814 |
| 15/16 | 1.97464 | 8897.7952 | 1.97502 | 8913.5235 | 1.97541 | 8929.2657 |

| Fraction of an inch | 6" | | 7" | | 8" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.97543 | 8930.2500 | 1.97581 | 8946.0069 | 1.97620 | 8961.7778 |
| 1/16 | 1.97546 | 8931.2344 | 1.97584 | 8946.9922 | 1.97622 | 8962.7639 |
| 1/8 | 1.97548 | 8932.2189 | 1.97586 | 8947.9775 | 1.97624 | 8963.7501 |
| 3/16 | 1.97550 | 8933.2034 | 1.97589 | 8948.9629 | 1.97627 | 8964.7364 |
| 1/4 | 1.97553 | 8934.1879 | 1.97591 | 8949.9484 | 1.97629 | 8965.7227 |
| 5/16 | 1.97555 | 8935.1726 | 1.97593 | 8950.9338 | 1.97632 | 8966.7090 |
| 3/8 | 1.97558 | 8936.1572 | 1.97596 | 8951.9194 | 1.97634 | 8967.6954 |
| 7/16 | 1.97560 | 8937.1420 | 1.97598 | 8952.9050 | 1.97636 | 8968.6819 |
| 1/2 | 1.97562 | 8938.1267 | 1.97601 | 8953.8906 | 1.97639 | 8969.6684 |
| 9/16 | 1.97565 | 8939.1116 | 1.97603 | 8954.8763 | 1.97641 | 8970.6550 |
| 5/8 | 1.97567 | 8940.0965 | 1.97605 | 8955.8621 | 1.97644 | 8971.6416 |
| 11/16 | 1.97570 | 8941.0814 | 1.97608 | 8956.8479 | 1.97646 | 8972.6283 |
| 3/4 | 1.97572 | 8942.0664 | 1.97610 | 8957.8338 | 1.97648 | 8973.6150 |
| 13/16 | 1.97574 | 8943.0515 | 1.97613 | 8958.8197 | 1.97651 | 8974.6018 |
| 7/8 | 1.97577 | 8944.0366 | 1.97615 | 8959.8057 | 1.97653 | 8975.5887 |
| 15/16 | 1.97579 | 8945.0217 | 1.97617 | 8960.7917 | 1.97656 | 8976.5755 |

| Fraction of an inch | 9" | | 10" | | 11" | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.97658 | 8977.5625 | 1.97696 | 8993.3611 | 1.97734 | 9009.1736 |
| 1/16 | 1.97660 | 8978.5495 | 1.97698 | 8994.3490 | 1.97737 | 9010.1624 |
| 1/8 | 1.97663 | 8979.5366 | 1.97701 | 8995.3369 | 1.97739 | 9011.1512 |
| 3/16 | 1.97665 | 8980.5237 | 1.97703 | 8996.3249 | 1.97741 | 9012.1400 |
| 1/4 | 1.97667 | 8981.5109 | 1.97706 | 8997.3129 | 1.97744 | 9013.1289 |
| 5/16 | 1.97670 | 8982.4981 | 1.97708 | 8998.3010 | 1.97746 | 9014.1179 |
| 3/8 | 1.97672 | 8983.4854 | 1.97710 | 8999.2892 | 1.97749 | 9015.1069 |
| 7/16 | 1.97675 | 8984.4727 | 1.97713 | 9000.2774 | 1.97751 | 9016.0959 |
| 1/2 | 1.97677 | 8985.4601 | 1.97715 | 9001.2656 | 1.97753 | 9017.0851 |
| 9/16 | 1.97679 | 8986.4475 | 1.97718 | 9002.2539 | 1.97756 | 9018.0742 |
| 5/8 | 1.97682 | 8987.4350 | 1.97720 | 9003.2423 | 1.97758 | 9019.0635 |
| 11/16 | 1.97684 | 8988.4226 | 1.97722 | 9004.2307 | 1.97760 | 9020.0528 |
| 3/4 | 1.97687 | 8989.4102 | 1.97725 | 9005.2192 | 1.97763 | 9021.0421 |
| 13/16 | 1.97689 | 8990.3978 | 1.97727 | 9006.2077 | 1.97765 | 9022.0315 |
| 7/8 | 1.97691 | 8991.3855 | 1.97729 | 9007.1963 | 1.97768 | 9023.0209 |
| 15/16 | 1.97694 | 8992.3733 | 1.97732 | 9008.1849 | 1.97770 | 9024.0104 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.97772 | 9025.0000 | 1.97810 | 9040.8403 | 1.97848 | 9056.6944 |
| 1/16 | 1.97775 | 9025.9896 | 1.97813 | 9041.8308 | 1.97851 | 9057.6858 |
| 1/8 | 1.97777 | 9026.9793 | 1.97815 | 9042.8213 | 1.97853 | 9058.6772 |
| 3/16 | 1.97780 | 9027.9690 | 1.97818 | 9043.8119 | 1.97856 | 9059.6686 |
| 1/4 | 1.97782 | 9028.9588 | 1.97820 | 9044.8025 | 1.97858 | 9060.6602 |
| 5/16 | 1.97784 | 9029.9486 | 1.97822 | 9045.7932 | 1.97860 | 9061.6517 |
| 3/8 | 1.97787 | 9030.9385 | 1.97825 | 9046.7840 | 1.97863 | 9062.6433 |
| 7/16 | 1.97789 | 9031.9384 | 1.97827 | 9047.7748 | 1.97865 | 9063.6350 |
| 1/2 | 1.97791 | 9032.9184 | 1.97829 | 9048.7656 | 1.97867 | 9064.6267 |
| 9/16 | 1.97794 | 9033.9084 | 1.97832 | 9049.7565 | 1.97870 | 9065.6185 |
| 5/8 | 1.97796 | 9034.8985 | 1.97834 | 9050.7475 | 1.97872 | 9066.6104 |
| 11/16 | 1.97799 | 9035.8887 | 1.97837 | 9051.7385 | 1.97875 | 9067.6022 |
| 3/4 | 1.97801 | 9036.8789 | 1.97839 | 9052.7296 | 1.97877 | 9068.5942 |
| 13/16 | 1.97803 | 9037.8692 | 1.97841 | 9053.7207 | 1.97879 | 9069.5862 |
| 7/8 | 1.97806 | 9038.8595 | 1.97844 | 9054.7119 | 1.97882 | 9070.5782 |
| 15/16 | 1.97808 | 9039.8499 | 1.97846 | 9055.7032 | 1.97884 | 9071.5703 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.97886 | 9072.5625 | 1.97924 | 9088.4444 | 1.97962 | 9104.3403 |
| 1/16 | 1.97889 | 9073.5547 | 1.97927 | 9089.4375 | 1.97965 | 9105.3342 |
| 1/8 | 1.97891 | 9074.5470 | 1.97929 | 9090.4307 | 1.97967 | 9106.3282 |
| 3/16 | 1.97894 | 9075.5393 | 1.97932 | 9091.4239 | 1.97970 | 9107.3223 |
| 1/4 | 1.97896 | 9076.5317 | 1.97934 | 9092.4171 | 1.97972 | 9108.3164 |
| 5/16 | 1.97898 | 9077.5241 | 1.97936 | 9093.4104 | 1.97974 | 9109.3106 |
| 3/8 | 1.97901 | 9078.5166 | 1.97939 | 9094.4038 | 1.97977 | 9110.3048 |
| 7/16 | 1.97903 | 9079.5091 | 1.97941 | 9095.3972 | 1.97979 | 9111.2991 |
| 1/2 | 1.97905 | 9080.5017 | 1.97943 | 9096.3906 | 1.97981 | 9112.2934 |
| 9/16 | 1.97908 | 9081.4944 | 1.97946 | 9097.3841 | 1.97984 | 9113.2878 |
| 5/8 | 1.97910 | 9082.4871 | 1.97948 | 9098.3777 | 1.97986 | 9114.2822 |
| 11/16 | 1.97913 | 9083.4798 | 1.97951 | 9099.3713 | 1.97988 | 9115.2767 |
| 3/4 | 1.97915 | 9084.4727 | 1.97953 | 9100.3650 | 1.97991 | 9116.2713 |
| 13/16 | 1.97917 | 9085.4655 | 1.97955 | 9101.3588 | 1.97993 | 9117.2659 |
| 7/8 | 1.97920 | 9086.4584 | 1.97958 | 9102.3525 | 1.97996 | 9118.2605 |
| 15/16 | 1.97922 | 9087.4514 | 1.97960 | 9103.3464 | 1.97998 | 9119.2552 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.98000 | 9120.2500 | 1.98038 | 9136.1736 | 1.98076 | 9152.1111 |
| 1/16 | 1.98003 | 9121.2448 | 1.98041 | 9137.1693 | 1.98078 | 9153.1077 |
| 1/8 | 1.98005 | 9122.2397 | 1.98043 | 9138.1650 | 1.98081 | 9154.1043 |
| 3/16 | 1.98007 | 9123.2346 | 1.98045 | 9139.1608 | 1.98083 | 9155.1009 |
| 1/4 | 1.98010 | 9124.2296 | 1.98048 | 9140.1567 | 1.98086 | 9156.0977 |
| 5/16 | 1.98012 | 9125.2246 | 1.98050 | 9141.1526 | 1.98088 | 9157.0944 |
| 3/8 | 1.98015 | 9126.2197 | 1.98052 | 9142.1485 | 1.98090 | 9158.0913 |
| 7/16 | 1.98017 | 9127.2149 | 1.98055 | 9143.1446 | 1.98093 | 9159.0881 |
| 1/2 | 1.98019 | 9128.2101 | 1.98057 | 9144.1406 | 1.98095 | 9160.0851 |
| 9/16 | 1.98022 | 9129.2053 | 1.98060 | 9145.1367 | 1.98097 | 9161.0821 |
| 5/8 | 1.98024 | 9130.2006 | 1.98062 | 9146.1329 | 1.98100 | 9162.0791 |
| 11/16 | 1.98026 | 9131.1960 | 1.98064 | 9147.1292 | 1 98102 | 9163.0762 |
| 3/4 | 1.98029 | 9132.1914 | 1.98067 | 9148.1254 | 1.98104 | 9164.0734 |
| 13/16 | 1.98031 | 9133.1869 | 1.98069 | 9149.1218 | 1.98107 | 9165.0706 |
| 7/8 | 1.98033 | 9134.1824 | 1.98071 | 9150.1182 | 1.98109 | 9166.0678 |
| 15/16 | 1.98036 | 9135.1780 | 1.98074 | 9151.1146 | 1.98112 | 9167 0651 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.98114 | 9168.0625 | 1.98152 | 9184.0278 | 1.98189 | 9200.0069 |
| 1/16 | 1.98116 | 9169.0599 | 1.98154 | 9185.0261 | 1.98192 | 9201.0061 |
| 1/8 | 1.98119 | 9170.0574 | 1.98156 | 9186.0244 | 1.98194 | 9202.0053 |
| 3/16 | 1.98121 | 9171.0549 | 1.98159 | 9187.0228 | 1.98196 | 9203.0046 |
| 1/4 | 1.98123 | 9172.0525 | 1.98161 | 9188.0213 | 1.98199 | 9204.0039 |
| 5/16 | 1.98126 | 9173.0502 | 1.98163 | 9189.0198 | 1.98201 | 9205.0033 |
| 3/8 | 1.98128 | 9174.0479 | 1.98166 | 9190.0183 | 1.98204 | 9206.0027 |
| 7/16 | 1.98130 | 9175.0456 | 1.98168 | 9191.0170 | 1.98206 | 9207.0022 |
| 1/2 | 1.98133 | 9176.0434 | 1.98171 | 9192.0156 | 1.98208 | 9208.0017 |
| 9/16 | 1.98135 | 9177.0413 | 1.98173 | 9193.0144 | 1.98211 | 9209.0013 |
| 5/8 | 1.98137 | 9178.0392 | 1.98175 | 9194.0131 | 1.98213 | 9210.0010 |
| 11/16 | 1.98140 | 9179.0371 | 1.98178 | 9195.0120 | 1.98215 | 9211.0007 |
| 3/4 | 1.98142 | 9180.0352 | 1.98180 | 9196.0109 | 1.98218 | 9212.0004 |
| 13/16 | 1.98145 | 9181.0332 | 1.98182 | 9197.0098 | 1.98220 | 9213.0002 |
| 7/8 | 1.98147 | 9182.0314 | 1.98185 | 9198.0088 | 1.98222 | 9214.0001 |
| 15/16 | 1.98149 | 9183.0295 | 1.98187 | 9199.0078 | 1.98225 | 9215.0000 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.98227 | 9216.0000 | 1.98265 | 9232.0069 | 1.98302 | 9248.0278 |
| 1/16 | 1.98229 | 9217.0000 | 1.98267 | 9233.0078 | 1.98305 | 9249.0295 |
| 1/8 | 1.98232 | 9218.0001 | 1.98270 | 9234.0088 | 1.98307 | 9250.0314 |
| 3/16 | 1.98234 | 9219.0002 | 1.98272 | 9235.0098 | 1.98310 | 9251.0332 |
| 1/4 | 1.98237 | 9220.0004 | 1.98274 | 9236.0109 | 1.98312 | 9252.0352 |
| 5/16 | 1.98239 | 9221.0007 | 1.98277 | 9237.0120 | 1.98314 | 9253.0371 |
| 3/8 | 1.98241 | 9222.0010 | 1.98279 | 9238.0131 | 1.98317 | 9254.0392 |
| 7/16 | 1.98244 | 9223.0013 | 1.98281 | 9239.0144 | 1.98319 | 9255.0413 |
| 1/2 | 1.98246 | 9224.0017 | 1.98284 | 9240.0156 | 1.98321 | 9256.0434 |
| 9/16 | 1.98248 | 9225.0022 | 1.98286 | 9241.0170 | 1.98324 | 9257.0456 |
| 5/8 | 1.98251 | 9226.0027 | 1.98288 | 9242.0183 | 1.98326 | 9258.0479 |
| 11/16 | 1.98253 | 9227.0033 | 1.98291 | 9243.0198 | 1.98328 | 9259.0502 |
| 3/4 | 1.98255 | 9228.0039 | 1.98293 | 9244.0213 | 1.98331 | 9260.0525 |
| 13/16 | 1.98258 | 9229.0046 | 1.98295 | 9245.0228 | 1.98333 | 9261.0549 |
| 7/8 | 1.98260 | 9230.0053 | 1.98298 | 9246.0244 | 1.98335 | 9262.0574 |
| 15/16 | 1.98262 | 9231.0061 | 1.98300 | 9247.0261 | 1.98338 | 9263.0599 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.98340 | 9264.0625 | 1.98378 | 9280.1111 | 1.98415 | 9296.1736 |
| 1/16 | 1.98342 | 9265.0651 | 1.98380 | 9281.1146 | 1.98418 | 9297.1780 |
| 1/8 | 1.98345 | 9266.0678 | 1.98382 | 9282.1182 | 1.98420 | 9298.1824 |
| 3/16 | 1.98347 | 9267.0706 | 1.98385 | 9283.1218 | 1.98422 | 9299.1869 |
| 1/4 | 1.98349 | 9268.0734 | 1.98387 | 9284.1254 | 1.98425 | 9300.1914 |
| 5/16 | 1.98352 | 9269.0762 | 1.98389 | 9285.1292 | 1.98427 | 9301.1960 |
| 3/8 | 1.98354 | 9270.0791 | 1.98392 | 9286.1329 | 1.98429 | 9302.2006 |
| 7/16 | 1.98357 | 9271.0821 | 1.98394 | 9287.1367 | 1.98432 | 9303.2053 |
| 1/2 | 1.98359 | 9272.0851 | 1.98396 | 9288.1406 | 1.98434 | 9304.2101 |
| 9/16 | 1.98361 | 9273.0881 | 1.98399 | 9289.1446 | 1.98436 | 9305.2149 |
| 5/8 | 1.98364 | 9274.0913 | 1.98401 | 9290.1485 | 1.98439 | 9306.2197 |
| 11/16 | 1.98366 | 9275.0944 | 1.98403 | 9291.1526 | 1.98441 | 9307.2246 |
| 3/4 | 1.98368 | 9276.0977 | 1.98406 | 9292.1567 | 1.98443 | 9308.2296 |
| 13/16 | 1.98371 | 9277.1009 | 1.98408 | 9293.1608 | 1.98446 | 9309.2346 |
| 7/8 | 1.98373 | 9278.1043 | 1.98411 | 9294.1650 | 1.98448 | 9310.2397 |
| 15/16 | 1.98375 | 9279.1077 | 1.98413 | 9295.1693 | 1.98450 | 9311.2448 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.98453 | 9312.2500 | 1.98490 | 9328.3403 | 1.98528 | 9344.4444 |
| 1/16 | 1.98455 | 9313.2552 | 1.98493 | 9329.3464 | 1.98530 | 9345.4514 |
| 1/8 | 1.98457 | 9314.2605 | 1.98495 | 9330.3525 | 1.98532 | 9346.4584 |
| 3/16 | 1.98460 | 9315.2659 | 1.98497 | 9331.3588 | 1.98535 | 9347.4655 |
| 1/4 | 1.98462 | 9316.2713 | 1.98500 | 9332.3650 | 1.98537 | 9348.4727 |
| 5/16 | 1.98464 | 9317.2767 | 1.98502 | 9333.3713 | 1.98539 | 9349.4798 |
| 3/8 | 1.98467 | 9318.2822 | 1.98504 | 9334.3777 | 1.98542 | 9350.4871 |
| 7/16 | 1.98469 | 9319.2878 | 1.98507 | 9335.3841 | 1.98544 | 9351.4944 |
| 1/2 | 1.98471 | 9320.2934 | 1.98509 | 9336.3906 | 1.98546 | 9352.5017 |
| 9/16 | 1.98474 | 9321.2991 | 1.98511 | 9337.3972 | 1.98549 | 9353.5091 |
| 5/8 | 1.98476 | 9322.3048 | 1.98514 | 9338.4038 | 1.98551 | 9354.5166 |
| 11/16 | 1.98479 | 9323.3106 | 1.98516 | 9339.4104 | 1.98553 | 9355.5241 |
| 3/4 | 1.98481 | 9324.3164 | 1.98518 | 9340.4171 | 1.98556 | 9356.5317 |
| 13/16 | 1.98483 | 9325.3223 | 1.98521 | 9341.4239 | 1.98558 | 9357.5393 |
| 7/8 | 1.98486 | 9326.3282 | 1.98523 | 9342.4307 | 1.98560 | 9358.5470 |
| 15/16 | 1.98488 | 9327.3342 | 1.98525 | 9343.4375 | 1.98563 | 9359.5547 |

| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.98565 | 9360.5625 | 1.98602 | 9376.6944 | 1.98640 | 9392.8403 |
| 1/16 | 1.98567 | 9361.5703 | 1.98605 | 9377.7032 | 1.98642 | 9393.8499 |
| 1/8 | 1.98570 | 9362.5782 | 1.98607 | 9378.7119 | 1.98645 | 9394.8595 |
| 3/16 | 1.98572 | 9363.5862 | 1.98609 | 9379.7207 | 1.98647 | 9395.8692 |
| 1/4 | 1.98574 | 9364.5942 | 1.98612 | 9380.7296 | 1.98649 | 9396.8789 |
| 5/16 | 1.98577 | 9365.6022 | 1.98614 | 9381.7385 | 1.98652 | 9397.8887 |
| 3/8 | 1.98579 | 9366.6104 | 1.98617 | 9382.7475 | 1.98654 | 9398.8985 |
| 7/16 | 1.98581 | 9367.6185 | 1.98619 | 9383.7565 | 1.98656 | 9399.9084 |
| 1/2 | 1.98584 | 9368.6267 | 1.98621 | 9384.7656 | 1.98659 | 9400.9184 |
| 9/16 | 1.98586 | 9369.6350 | 1.98624 | 9385.7748 | 1.98661 | 9401.9284 |
| 5/8 | 1.98588 | 9370.6433 | 1.98626 | 9386.7840 | 1.98663 | 9402.9385 |
| 11/16 | 1.98591 | 9371.6517 | 1.98628 | 9387.7932 | 1.98666 | 9403.9486 |
| 3/4 | 1.98593 | 9372.6602 | 1.98631 | 9388.8025 | 1.98668 | 9404.9588 |
| 13/16 | 1.98595 | 9373.6686 | 1.98633 | 9389.8119 | 1.98670 | 9405.9690 |
| 7/8 | 1.98598 | 9374.6772 | 1.98635 | 9390.8213 | 1.98673 | 9406.9793 |
| 15/16 | 1.98600 | 9375.6858 | 1.98638 | 9391.8308 | 1.98675 | 9407.9896 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.98677 | 9409.0000 | 1.98714 | 9425.1736 | 1.98752 | 9441.3611 |
| 1/16 | 1.98680 | 9410.0104 | 1.98717 | 9426.1849 | 1.98754 | 9442.3733 |
| 1/8 | 1.98682 | 9411.0209 | 1.98719 | 9427.1963 | 1.98756 | 9443.3855 |
| 3/16 | 1.98684 | 9412.0315 | 1.98721 | 9428.2077 | 1.98759 | 9444.3978 |
| 1/4 | 1.98687 | 9413.0421 | 1.98724 | 9429.2192 | 1.98761 | 9445.4102 |
| 5/16 | 1.98689 | 9414.0528 | 1.98726 | 9430.2307 | 1.98763 | 9446.4226 |
| 3/8 | 1.98691 | 9415.0635 | 1.98728 | 9431.2423 | 1.98766 | 9447.4350 |
| 7/16 | 1.98693 | 9416.0742 | 1.98731 | 9432.2539 | 1.98768 | 9448.4475 |
| 1/2 | 1.98696 | 9417.0851 | 1.98733 | 9433.2656 | 1.98770 | 9449.4601 |
| 9/16 | 1.98698 | 9418.0959 | 1.98735 | 9434.2774 | 1.98773 | 9450.4727 |
| 5/8 | 1.98700 | 9419.1069 | 1.98738 | 9435.2892 | 1.98775 | 9451.4854 |
| 11/16 | 1.98703 | 9420.1179 | 1.98740 | 9436.3010 | 1.98777 | 9452.4981 |
| 3/4 | 1.98705 | 9421.1289 | 1.98742 | 9437.3129 | 1.98780 | 9453.5109 |
| 13/16 | 1.98707 | 9422.1400 | 1.98745 | 9438.3249 | 1.98782 | 9454.5237 |
| 7/8 | 1.98710 | 9423.1512 | 1.98747 | 9439.3369 | 1.98784 | 9455.5366 |
| 15/16 | 1.98712 | 9424.1624 | 1.98749 | 9440.3490 | 1.98787 | 9456.5495 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.98789 | 9457.5625 | 1.98826 | 9473.7778 | 1.98863 | 9490.0069 |
| 1/16 | 1.98791 | 9458.5755 | 1.98828 | 9474.7917 | 1.98866 | 9491.0217 |
| 1/8 | 1.98794 | 9459.5887 | 1.98831 | 9475.8057 | 1.98868 | 9492.0366 |
| 3/16 | 1.98796 | 9460.6018 | 1.98833 | 9476.8197 | 1.98870 | 9493.0515 |
| 1/4 | 1.98798 | 9461.6150 | 1.98835 | 9477.8338 | 1.98873 | 9494.0664 |
| 5/16 | 1.98801 | 9462.6283 | 1.98838 | 9478.8479 | 1.98875 | 9495.0814 |
| 3/8 | 1.98803 | 9463.6416 | 1.98840 | 9479.8621 | 1.98877 | 9496.0965 |
| 7/16 | 1.98805 | 9464.6550 | 1.98842 | 9480.8763 | 1.98880 | 9497.1116 |
| 1/2 | 1.98808 | 9465.6684 | 1.98845 | 9481.8906 | 1.98882 | 9498.1267 |
| 9/16 | 1.98810 | 9466.6819 | 1.98847 | 9482.9050 | 1.98884 | 9499.1420 |
| 5/8 | 1.98812 | 9467.6954 | 1.98849 | 9483.9194 | 1.98887 | 9500.1572 |
| 11/16 | 1.98815 | 9468.7090 | 1.98852 | 9484.9338 | 1.98889 | 9501.1726 |
| 3/4 | 1.98817 | 9469.7227 | 1.98854 | 9485.9484 | 1.98891 | 9502.1879 |
| 13/16 | 1.98819 | 9470.7364 | 1.98856 | 9486.9629 | 1.98894 | 9503.2034 |
| 7/8 | 1.98822 | 9471.7501 | 1.98859 | 9487.9775 | 1.98896 | 9504.2189 |
| 15/16 | 1.98824 | 9472.7639 | 1.98861 | 9488.9922 | 1.98898 | 9505.2344 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.98900 | 9506.2500 | 1.98938 | 9522.5069 | 1.98975 | 9538.7778 |
| 1/16 | 1.98903 | 9507.2657 | 1.98940 | 9523.5235 | 1.98977 | 9539.7952 |
| 1/8 | 1.98905 | 9508.2814 | 1.98942 | 9524.5400 | 1.98979 | 9540.8126 |
| 3/16 | 1.98907 | 9509.2971 | 1.98945 | 9525.5567 | 1.98982 | 9541.8301 |
| 1/4 | 1.98910 | 9510.3129 | 1.98947 | 9526.5734 | 1.98984 | 9542.8477 |
| 5/16 | 1.98912 | 9511.3288 | 1.98949 | 9527.5901 | 1.98986 | 9543.8653 |
| 3/8 | 1.98914 | 9512.3447 | 1.98951 | 9528.6069 | 1.98989 | 9544.8829 |
| 7/16 | 1.98917 | 9513.3607 | 1.98954 | 9529.6237 | 1.98991 | 9545.9006 |
| 1/2 | 1.98919 | 9514.3767 | 1.98956 | 9530.6406 | 1.98993 | 9546.9184 |
| 9/16 | 1.98921 | 9515.3928 | 1.98958 | 9531.6576 | 1.98995 | 9547.9362 |
| 5/8 | 1.98924 | 9516.4090 | 1.98961 | 9532.6746 | 1.98998 | 9548.9541 |
| 11/16 | 1.98926 | 9517.4252 | 1.98963 | 9533.6917 | 1.99000 | 9549.9720 |
| 3/4 | 1.98928 | 9518.4414 | 1.98965 | 9534.7088 | 1.99002 | 9550.9900 |
| 13/16 | 1.98931 | 9519.4577 | 1.98968 | 9535.7259 | 1.99005 | 9552.0081 |
| 7/8 | 1.98933 | 9520.4741 | 1.98970 | 9536.7432 | 1.99007 | 9553.0262 |
| 15/16 | 1.98935 | 9521.4905 | 1.98972 | 9537.7604 | 1.99009 | 9554.0443 |

| Fraction of an inch | 9″ | | 10″ | | 11′ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.99012 | 9555.0625 | 1.99049 | 9571.3611 | 1.99086 | 9587.6736 |
| 1/16 | 1.99014 | 9556.0808 | 1.99051 | 9572.3802 | 1.99088 | 9588.6936 |
| 1/8 | 1.99016 | 9557.0991 | 1.99053 | 9573.3994 | 1.99090 | 9589.7137 |
| 3/16 | 1.99019 | 9558.1174 | 1.99056 | 9574.4186 | 1.99093 | 9590.7338 |
| 1/4 | 1.99021 | 9559.1359 | 1.99058 | 9575.4379 | 1.99095 | 9591.7539 |
| 5/16 | 1.99023 | 9560.1543 | 1.99060 | 9576.4573 | 1.99097 | 9592.7741 |
| 3/8 | 1.99026 | 9561.1729 | 1.99063 | 9577.4767 | 1.99100 | 9593.7944 |
| 7/16 | 1.99028 | 9562.1914 | 1.99065 | 9578.4961 | 1.99102 | 9594.8147 |
| 1/2 | 1.99030 | 9563.2101 | 1.99067 | 9579.5156 | 1.99104 | 9595.8351 |
| 9/16 | 1.99032 | 9564.2288 | 1.99069 | 9580.5352 | 1.99106 | 9596.8555 |
| 5/8 | 1.99035 | 9565.2475 | 1.99072 | 9581.5548 | 1.99109 | 9597.8760 |
| 11/16 | 1.99037 | 9566.2663 | 1.99074 | 9582.5745 | 1.99111 | 9598.8965 |
| 3/4 | 1.99039 | 9567.2852 | 1.99076 | 9583.5942 | 1.99113 | 9599.9171 |
| 13/16 | 1.99042 | 9568.3041 | 1.99079 | 9584.6140 | 1.99116 | 9600.9377 |
| 7/8 | 1.99044 | 9569.3230 | 1.99081 | 9585.6338 | 1.99118 | 9601.9584 |
| 15/16 | 1.99046 | 9570.3420 | 1.99083 | 9586.6537 | 1.99120 | 9602.9792 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.99123 | 9604.0000 | 1.99160 | 9620.3403 | 1.99196 | 9636.6944 |
| 1/16 | 1.99125 | 9605.0209 | 1.99162 | 9621.3620 | 1.99199 | 9637.7170 |
| 1/8 | 1.99127 | 9606.0418 | 1.99164 | 9622.3838 | 1.99201 | 9638.7397 |
| 3/16 | 1.99130 | 9607.0627 | 1.99166 | 9623.4056 | 1.99203 | 9639.7624 |
| 1/4 | 1.99132 | 9608.0838 | 1.99169 | 9624.4275 | 1.99206 | 9640.7852 |
| 5/16 | 1.99134 | 9609.1048 | 1.99171 | 9625.4495 | 1.99208 | 9641.8080 |
| 3/8 | 1.99136 | 9610.1260 | 1.99173 | 9626.4715 | 1.99210 | 9642.8308 |
| 7/16 | 1.99139 | 9611.1472 | 1.99176 | 9627.4935 | 1.99213 | 9643.8538 |
| 1/2 | 1.99141 | 9612.1684 | 1.99178 | 9628.5156 | 1.99215 | 9644.8767 |
| 9/16 | 1.99143 | 9613.1897 | 1.99180 | 9629.5378 | 1.99217 | 9645.8998 |
| 5/8 | 1.99146 | 9614.2110 | 1.99183 | 9630.5600 | 1.99219 | 9646.9229 |
| 11/16 | 1.99148 | 9615.2324 | 1.99185 | 9631.5823 | 1.99222 | 9647.9460 |
| 3/4 | 1.99150 | 9616.2539 | 1.99187 | 9632.6046 | 1.99224 | 9648.9692 |
| 13/16 | 1.99153 | 9617.2754 | 1.99189 | 9633.6270 | 1.99226 | 9649.9924 |
| 7/8 | 1.99155 | 9618.2970 | 1.99192 | 9634.6494 | 1.99229 | 9651.0157 |
| 15/16 | 1.99157 | 9619.3186 | 1.99194 | 9635.6719 | 1.99231 | 9652.0391 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.99233 | 9653.0625 | 1.99270 | 9669.4444 | 1.99307 | 9685.8403 |
| 1/16 | 1.99236 | 9654.0860 | 1.99272 | 9670.4688 | 1.99309 | 9686.8655 |
| 1/8 | 1.99238 | 9655.1095 | 1.99275 | 9671.4932 | 1.99311 | 9687.8907 |
| 3/16 | 1.99240 | 9656.1331 | 1.99277 | 9672.5176 | 1.99314 | 9688.9160 |
| 1/4 | 1.99242 | 9657.1567 | 1.99279 | 9673.5421 | 1.99316 | 9689.9414 |
| 5/16 | 1.99245 | 9658.1804 | 1.99282 | 9674.5667 | 1.99318 | 9690.9668 |
| 3/8 | 1.99247 | 9659.2041 | 1.99284 | 9675.5913 | 1.99321 | 9691.9923 |
| 7/16 | 1.99249 | 9660.2279 | 1.99286 | 9676.6159 | 1.99323 | 9693.0178 |
| 1/2 | 1.99252 | 9661.2517 | 1.99288 | 9677.6406 | 1.99325 | 9694.0434 |
| 9/16 | 1.99254 | 9662.2756 | 1.99291 | 9678.6654 | 1.99328 | 9695.0690 |
| 5/8 | 1.99256 | 9663.2996 | 1.99293 | 9679.6902 | 1.99330 | 9696.0947 |
| 11/16 | 1.99259 | 9664.3236 | 1.99295 | 9680.7151 | 1.99332 | 9697.1205 |
| 3/4 | 1.99261 | 9665.3477 | 1.99298 | 9681.7400 | 1.99334 | 9698.1463 |
| 13/16 | 1.99263 | 9666.3718 | 1.99300 | 9682.7650 | 1.99337 | 9699.1721 |
| 7/8 | 1.99265 | 9667.3959 | 1.99302 | 9683.7900 | 1.99339 | 9700.1980 |
| 15/16 | 1.99268 | 9668.4202 | 1.99305 | 9684.8151 | 1.99341 | 9701.2240 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.99344 | 9702.2500 | 1.99380 | 9718.6736 | 1.99417 | 9735.1111 |
| 1/16 | 1.99346 | 9703.2761 | 1.99383 | 9719.7005 | 1.99419 | 9736.1389 |
| 1/8 | 1.99348 | 9704.3022 | 1.99385 | 9720.7275 | 1.99422 | 9737.1668 |
| 3/16 | 1.99351 | 9705.3284 | 1.99387 | 9721.7546 | 1.99424 | 9738.1947 |
| 1/4 | 1.99353 | 9706.3546 | 1.99390 | 9722.7817 | 1.99426 | 9739.2227 |
| 5/16 | 1.99355 | 9707.3809 | 1.99392 | 9723.8088 | 1.99429 | 9740.2507 |
| 3/8 | 1.99357 | 9708.4072 | 1.99394 | 9724.8360 | 1.99431 | 9741.2788 |
| 7/16 | 1.99360 | 9709.4336 | 1.99396 | 9725.8633 | 1.99433 | 9742.3069 |
| 1/2 | 1.99362 | 9710.4601 | 1.99399 | 9726.8906 | 1.99435 | 9743.3351 |
| 9/16 | 1.99364 | 9711.4866 | 1.99401 | 9727.9180 | 1.99438 | 9744.3633 |
| 5/8 | 1.99367 | 9712.5131 | 1.99403 | 9728.9454 | 1.99440 | 9745.3916 |
| 11/16 | 1.99369 | 9713.5397 | 1.99406 | 9729.9729 | 1.99442 | 9746.4199 |
| 3/4 | 1.99371 | 9714.5664 | 1.99408 | 9731.0004 | 1.99445 | 9747.4484 |
| 13/16 | 1.99373 | 9715.5931 | 1.99410 | 9732.0280 | 1.99447 | 9748.4768 |
| 7/8 | 1.99376 | 9716.6199 | 1.99412 | 9733.0557 | 1.99449 | 9749.5053 |
| 15/16 | 1.99378 | 9717.6467 | 1.99415 | 9734.0834 | 1.99451 | 9750.5339 |

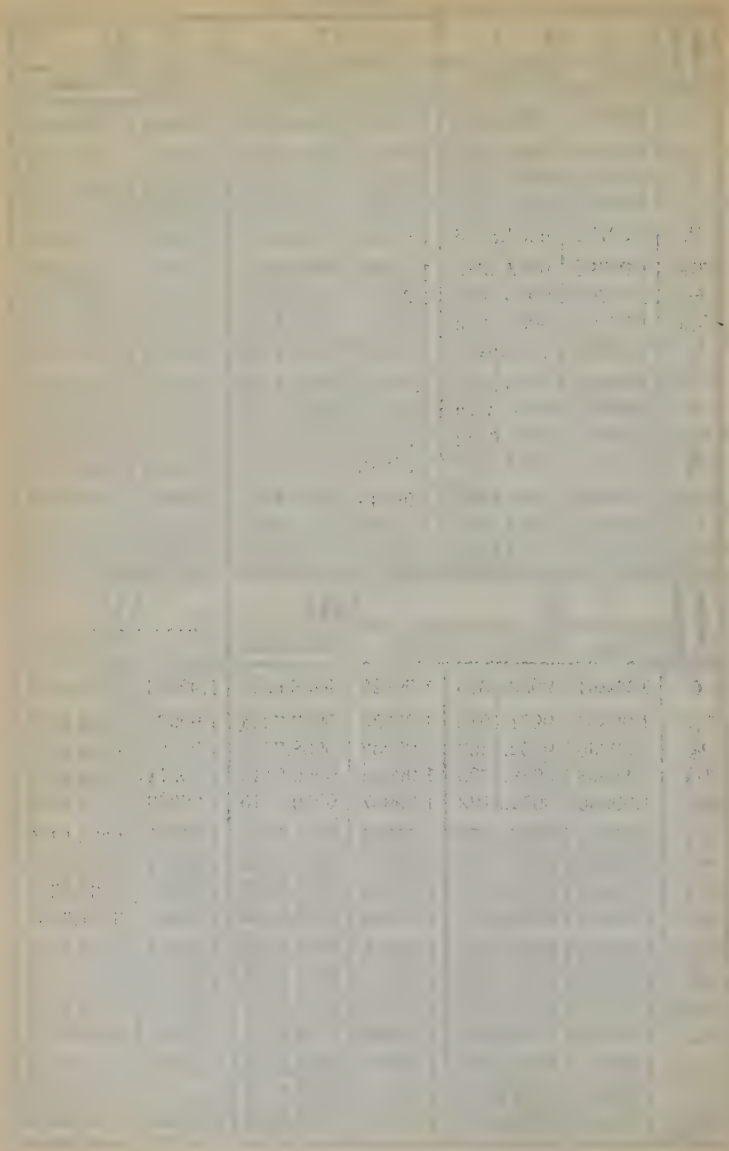
| Fraction of an inch | 9″ | | 10″ | | 11″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.99454 | 9751.5625 | 1.99490 | 9768.0278 | 1.99527 | 9784.5069 |
| 1/16 | 1.99456 | 9752.5912 | 1.99493 | 9769.0573 | 1.99529 | 9785.5374 |
| 1/8 | 1.99458 | 9753.6199 | 1.99495 | 9770.0869 | 1.99532 | 9786.5678 |
| 3/16 | 1.99461 | 9754.6487 | 1.99497 | 9771.1166 | 1.99534 | 9787.5983 |
| 1/4 | 1.99463 | 9755.6775 | 1.99499 | 9772.1463 | 1.99536 | 9788.6289 |
| 5/16 | 1.99465 | 9756.7064 | 1.99502 | 9773.1760 | 1.99538 | 9789.6595 |
| 3/8 | 1.99467 | 9757.7354 | 1.99504 | 9774.2058 | 1.99541 | 9790.6902 |
| 7/16 | 1.99470 | 9758.7644 | 1.99506 | 9775.2357 | 1.99543 | 9791.7209 |
| 1/2 | 1.99472 | 9759.7934 | 1.99509 | 9776.2656 | 1.99545 | 9792.7517 |
| 9/16 | 1.99474 | 9760.8225 | 1.99511 | 9777.2956 | 1.99548 | 9793.7826 |
| 5/8 | 1.99477 | 9761.8517 | 1.99513 | 9778.3256 | 1.99550 | 9794.8135 |
| 11/16 | 1.99479 | 9762.8809 | 1.99516 | 9779.3557 | 1.99552 | 9795.8444 |
| 3/4 | 1.99481 | 9763.9102 | 1.99518 | 9780.3859 | 1.99554 | 9796.8754 |
| 13/16 | 1.99483 | 9764.9395 | 1.99520 | 9781.4160 | 1.99557 | 9797.9065 |
| 7/8 | 1.99486 | 9765.9689 | 1.99522 | 9782.4463 | 1.99559 | 9798.9376 |
| 15/16 | 1.99488 | 9766.9983 | 1.99525 | 9783.4766 | 1.99561 | 9799.9688 |

| Fraction of an inch | 0″ | | 1″ | | 2″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.99564 | 9801.0000 | 1.99600 | 9817.5069 | 1.99637 | 9834.0278 |
| 1/16 | 1.99566 | 9802.0313 | 1.99602 | 9818.5391 | 1.99639 | 9835.0608 |
| 1/8 | 1.99568 | 9803.0626 | 1.99605 | 9819.5713 | 1.99641 | 9836.0939 |
| 3/16 | 1.99570 | 9804.0940 | 1.99607 | 9820.6035 | 1.99643 | 9837.1270 |
| 1/4 | 1.99573 | 9805.1254 | 1.99609 | 9821.6359 | 1.99646 | 9838.1602 |
| 5/16 | 1.99575 | 9806.1569 | 1.99611 | 9822.6682 | 1.99648 | 9839.1934 |
| 3/8 | 1.99577 | 9807.1885 | 1.99614 | 9823.7006 | 1.99650 | 9840.2267 |
| 7/16 | 1.99580 | 9808.2201 | 1.99616 | 9824.7331 | 1.99653 | 9841.2600 |
| 1/2 | 1.99582 | 9809.2517 | 1.99618 | 9825.7656 | 1.99655 | 9842.2934 |
| 9/16 | 1.99584 | 9810.2834 | 1.99621 | 9826.7982 | 1.99657 | 9843.3269 |
| 5/8 | 1.99586 | 9811.3152 | 1.99623 | 9827.8308 | 1.99659 | 9844.3604 |
| 11/16 | 1.99589 | 9812.3470 | 1.99625 | 9828.8635 | 1.99662 | 9845.3939 |
| 3/4 | 1.99591 | 9813.3789 | 1.99627 | 9829.8963 | 1.99664 | 9846.4275 |
| 13/16 | 1.99593 | 9814.4108 | 1.99630 | 9830.9291 | 1.99666 | 9847.4612 |
| 7/8 | 1.99595 | 9815.4428 | 1.99632 | 9831 9619 | 1.99668 | 9848.4949 |
| 15/16 | 1.99598 | 9816.4749 | 1.99634 | 9832.9948 | 1.99671 | 9849.5287 |

| Fraction of an inch | 3″ | | 4″ | | 5″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.99673 | 9850.5625 | 1.99710 | 9867.1111 | 1.99746 | 9883.6736 |
| 1/16 | 1.99675 | 9851.5964 | 1.99712 | 9868.1459 | 1.99748 | 9884.7092 |
| 1/8 | 1.99678 | 9852.6303 | 1.99714 | 9869.1807 | 1.99750 | 9885.7449 |
| 3/16 | 1 99680 | 9853.6643 | 1.99716 | 9870.2155 | 1.99753 | 9886.7806 |
| 1/4 | 1.99682 | 9854.6984 | 1.99719 | 9871.2504 | 1.99755 | 9887.8164 |
| 5/16 | 1.99684 | 9855.7324 | 1.99721 | 9872.2854 | 1.99757 | 9888.8522 |
| 3/8 | 1.99687 | 9856.7666 | 1.99723 | 9873.3204 | 1.99760 | 9889.8881 |
| 7/16 | 1.99689 | 9857.8008 | 1.99725 | 9874.3555 | 1.99762 | 9890.9241 |
| 1/2 | 1.99691 | 9858.8351 | 1.99728 | 9875.3906 | 1.99764 | 9891.9601 |
| 9/16 | 1.99694 | 9859.8694 | 1.99730 | 9876.4258 | 1.99766 | 9892.9961 |
| 5/8 | 1.99696 | 9860.9038 | 1.99732 | 9877.4610 | 1.99769 | 9894.0322 |
| 11/16 | 1.99698 | 9861.9382 | 1.99735 | 9878.4963 | 1.99771 | 9895.0684 |
| 3/4 | 1.99700 | 9862.9727 | 1.99737 | 9879.5317 | 1.99773 | 9896.1046 |
| 13/16 | 1.99703 | 9864.0072 | 1.99739 | 9880.5671 | 1.99775 | 9897.1409 |
| 7/8 | 1.99705 | 9865.0418 | 1.99741 | 9881.6025 | 1.99778 | 9898.1772 |
| 15/16 | 1.99707 | 9866.0764 | 1.99744 | 9882.6380 | 1.99780 | 9899.2136 |

| Fraction of an inch | 6″ | | 7″ | | 8″ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.99782 | 9900.2500 | 1.99819 | 9916.8403 | 1.99855 | 9933.4444 |
| 1/16 | 1.99785 | 9901.2865 | 1.99821 | 9917.8776 | 1.99857 | 9934.4827 |
| 1/8 | 1.99787 | 9902.3230 | 1.99823 | 9918.9150 | 1.99860 | 9935.5209 |
| 3/16 | 1.99789 | 9903.3596 | 1.99825 | 9919.9525 | 1.99862 | 9936.5593 |
| 1/4 | 1.99791 | 9904.3963 | 1.99828 | 9920.9900 | 1.99864 | 9937.5977 |
| 5/16 | 1.99794 | 9905.4330 | 1.99830 | 9922.0276 | 1.99866 | 9938.6361 |
| 3/8 | 1.99796 | 9906.4697 | 1.99832 | 9923.0652 | 1.99869 | 9939.6746 |
| 7/16 | 1.99798 | 9907.5065 | 1.99835 | 9924.1029 | 1.99871 | 9940.7131 |
| 1/2 | 1.99800 | 9908.5434 | 1.99837 | 9925.1406 | 1.99873 | 9941.7517 |
| 9/16 | 1.99803 | 9909.5803 | 1.99839 | 9926.1784 | 1.99875 | 9942.7904 |
| 5/8 | 1.99805 | 9910.6173 | 1.99841 | 9927.2163 | 1.99878 | 9943.8291 |
| 11/16 | 1.99807 | 9911.6543 | 1.99844 | 9928.2542 | 1 99880 | 9944.8679 |
| 3/4 | 1.99810 | 9912.6914 | 1.99846 | 9929.2921 | 1.99882 | 9945.9067 |
| 13/16 | 1.99812 | 9913.7285 | 1.99848 | 9930.3301 | 1.99884 | 9946.9456 |
| 7/8 | 1.99814 | 9914.7657 | 1.99850 | 9931.3682 | 1.99887 | 9947.9845 |
| 15/16 | 1.99816 | 9915.8030 | 1.99853 | 9932.4063 | 1.99889 | 9949.0235 |

| Fraction of an inch | 9″ | | 10″ | | 11′ | |
|---|---|---|---|---|---|---|
| | Log. | Square. | Log. | Square. | Log. | Square. |
| 0 | 1.99891 | 9950.0625 | 1.99928 | 9966.6944 | 1.99964 | 9983.3403 |
| 1/16 | 1.99894 | 9951.1016 | 1.99930 | 9967.7344 | 1.99966 | 9984.3811 |
| 1/8 | 1.99896 | 9952.1407 | 1.99932 | 9968.7744 | 1.99968 | 9985.4220 |
| 3/16 | 1.99898 | 9953.1799 | 1.99934 | 9969.8145 | 1.99971 | 9986.4629 |
| 1/4 | 1.99900 | 9954.2192 | 1.99937 | 9970.8546 | 1.99973 | 9987.5039 |
| 5/16 | 1.99903 | 9955.2585 | 1.99939 | 9971.8948 | 1.99975 | 9988.5449 |
| 3/8 | 1,99905 | 9956.2979 | 1.99941 | 9972.9350 | 1.99977 | 9989.5860 |
| 7/16 | 1.99907 | 9957.3373 | 1.99943 | 9973.9753 | 1.99980 | 9990.6272 |
| 1/2 | 1.99909 | 9958.3767 | 1.99946 | 9975.0156 | 1.99982 | 9991.6684 |
| 9/16 | 1.99912 | 9959.4163 | 1.99948 | 9976.0560 | 1.99984 | 9992.7097 |
| 5/8 | 1.99914 | 9960.4558 | 1.99950 | 9977.0965 | 1.99986 | 9993.7510 |
| 11/16 | 1.99916 | 9961.4955 | 1.99952 | 9978.1370 | 1.99989 | 9994.7923 |
| 3/4 | 1.99918 | 9962.5352 | 1.99955 | 9979.1775 | 1.99991 | 9995.8338 |
| 13/16 | 1.99921 | 9963.5749 | 1.99957 | 9980.2181 | 1.99993 | 9996.8752 |
| 7/8 | 1.99923 | 9964.6147 | 1.99959 | 9981.2588 | 1.99995 | 9997.9168 |
| 15/16 | 1.99925 | 9965.6545 | 1.99962 | 9982.2995 | 1.99998 | 9998.9584 |



# GRAPHIC SOLUTION OF A RIG

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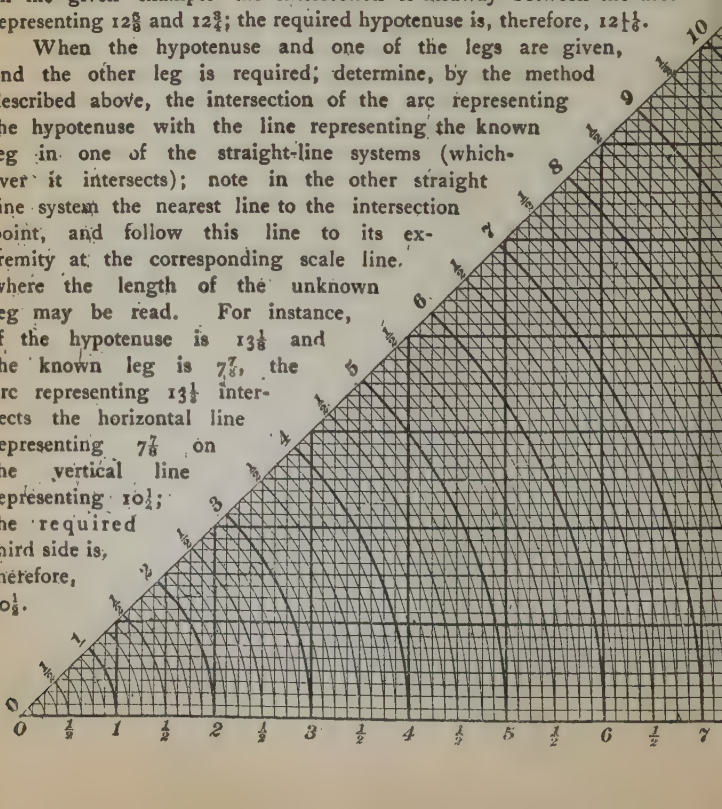
The accompanying diagram may be used as a means of solving a three systems of lines, as shown. The circular arcs are drawn from diagram as a center. Each of these three systems of lines represents a s The light lines represent eighths and quarters; the medium-heavy line heavy lines, units, as shown. The units and half units are numbered. to the circular lines are given on the 45° line and continued along the top

To find the hypotenuse of a right triangle whose legs are known is $9\frac{3}{4}$ and the other $8\frac{1}{8}$—place a ruler or the straight edge of a sh alongside the vertical line representing the *larger* dimension, in thi Then with a pencil point follow the horizontal line representing th known dimension to its intersection with the first. Then follow the nearest the intersection to the upper boundary of the diagram, where th hypotenuse can be read directly to eighths and estimated to sixteenths. In the given example the intersection is midway between the arcs representing $12\frac{5}{8}$ and $12\frac{3}{4}$; the required hypotenuse is, therefore, $12\frac{1}{16}$.

When the hypotenuse and one of the legs are given, and the other leg is required; determine, by the method described above, the intersection of the arc representing the hypotenuse with the line representing the known leg in one of the straight-line systems (whichever it intersects); note in the other straight line system the nearest line to the intersection point, and follow this line to its extremity at the corresponding scale line, where the length of the unknown leg may be read. For instance, if the hypotenuse is $13\frac{1}{8}$ and the known leg is $7\frac{7}{8}$, the arc representing $13\frac{1}{8}$ intersects the horizontal line representing $7\frac{7}{8}$ on the vertical line representing $10\frac{1}{4}$; the required third side is, therefore, $10\frac{1}{8}$.



# TRIANGLE

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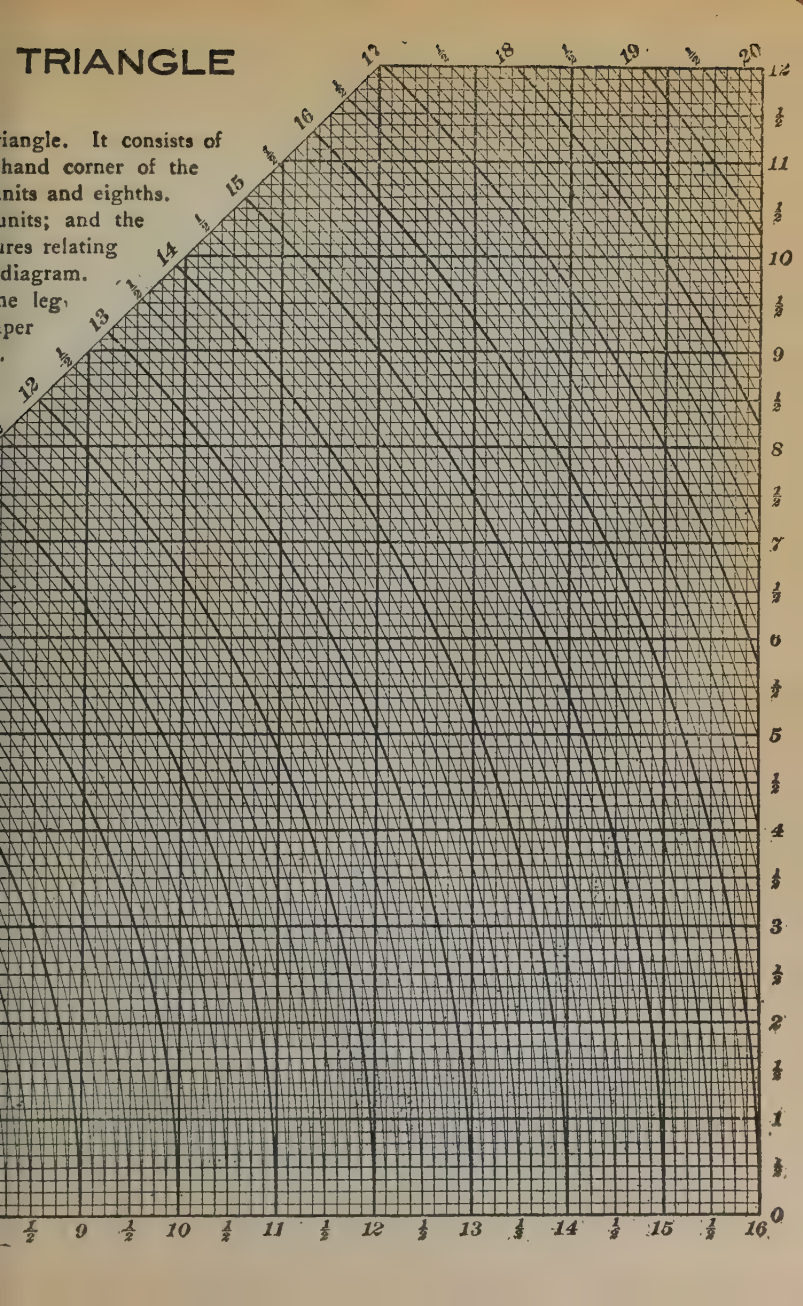

# GRAPHIC SOLUTION OF A RIGH

(CONTINUED)

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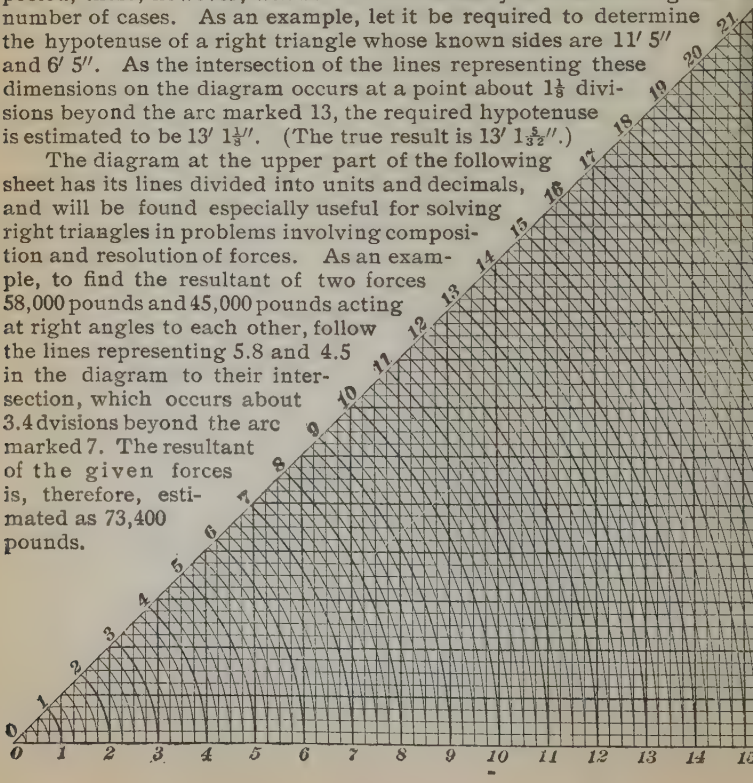
The diagrams shown on this and the following sheets are based on diagram on the preceding sheet, the difference being in the ground manner in which the lines are subdivided.

The diagram shown on this sheet has a scope twice as large as t preceding sheet, but its lines are divided into units and quarters, thus sary to estimate eighths, as well as sixteenths. For example, to find, b diagram, the hypotenuse of a right triangle whose legs are $21\frac{1}{2}$ a the lines representing these dimensions to their intersection, which point $2\frac{1}{4}$ divisions beyond the arc marked 27. The required hypot therefore, estimated to be $27\frac{9}{16}$.

On the following sheet, the diagram at the lower part has its l divided into units and twelfths, representing feet and inches. The scope this diagram is very large, but only approximate results may be expected; these, however, will be found sufficiently accurate in a great number of cases. As an example, let it be required to determine the hypotenuse of a right triangle whose known sides are 11′ 5″ and 6′ 5″. As the intersection of the lines representing these dimensions on the diagram occurs at a point about $1\frac{1}{3}$ divisions beyond the arc marked 13, the required hypotenuse is estimated to be 13′ $1\frac{1}{3}$″. (The true result is 13′ $1\frac{5}{32}$″.)

The diagram at the upper part of the following sheet has its lines divided into units and decimals, and will be found especially useful for solving right triangles in problems involving composition and resolution of forces. As an example, to find the resultant of two forces 58,000 pounds and 45,000 pounds acting at right angles to each other, follow the lines representing 5.8 and 4.5 in the diagram to their intersection, which occurs about 3.4 dvisions beyond the arc marked 7. The resultant of the given forces is, therefore, estimated as 73,400 pounds.



# RIANGLE

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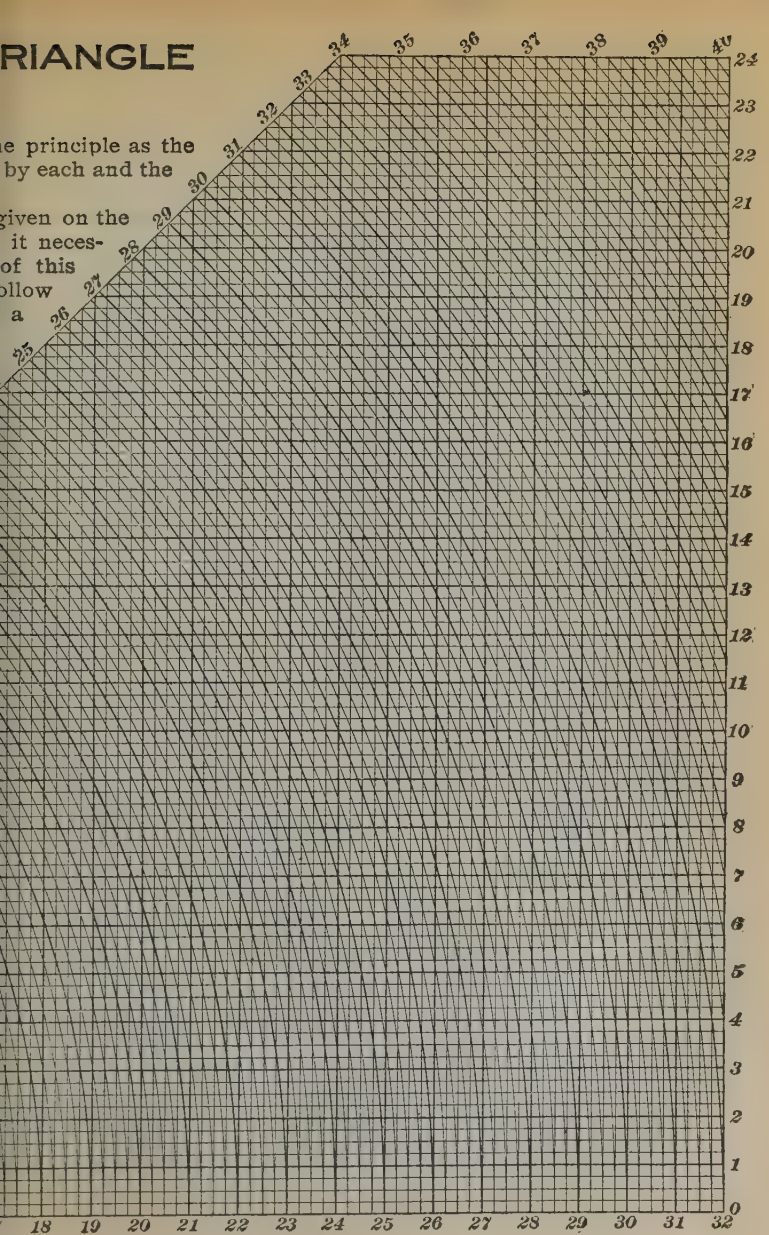

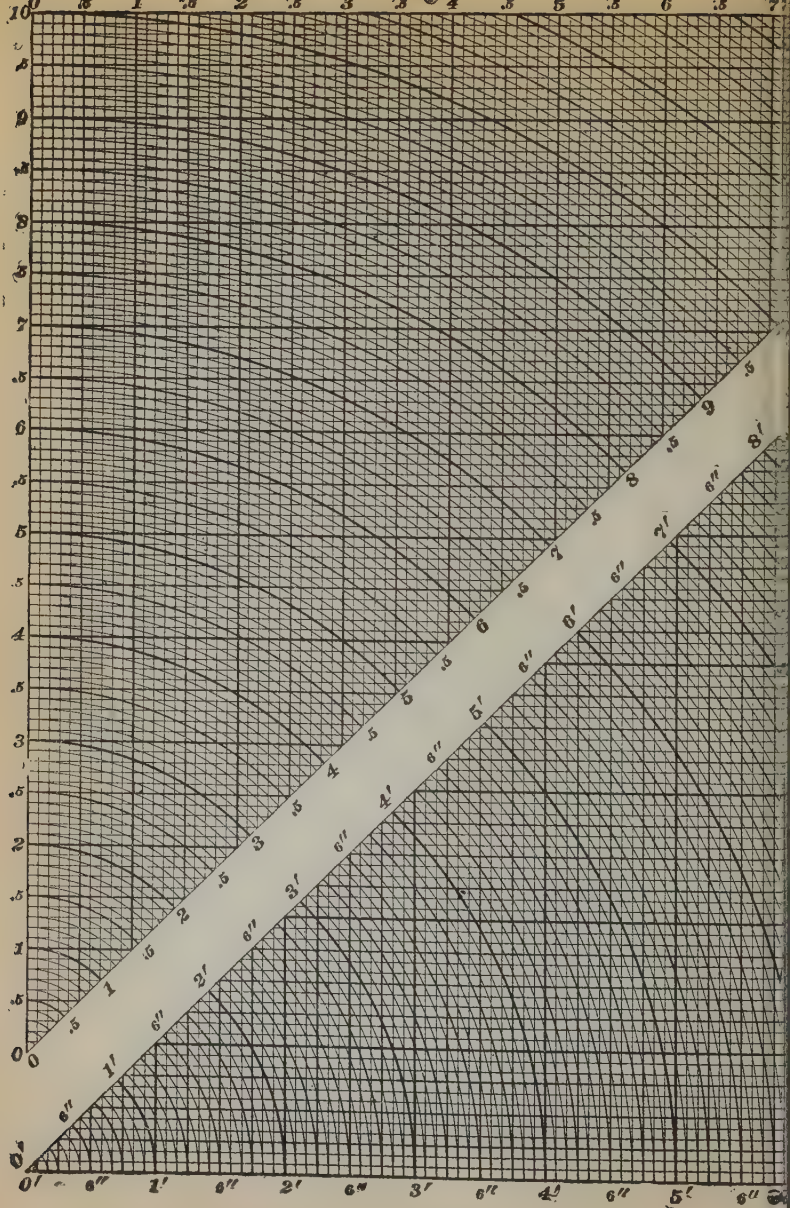

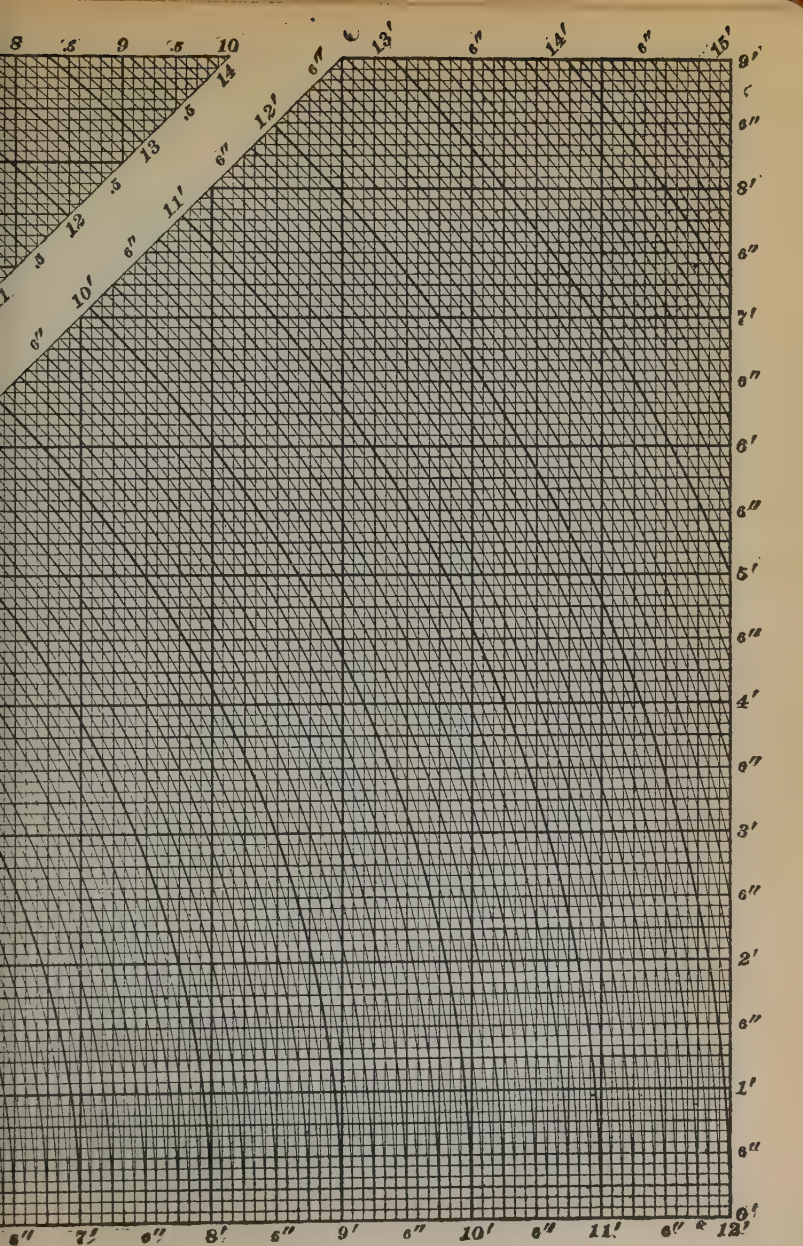
8 5 9 5 10
14
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6" 12'
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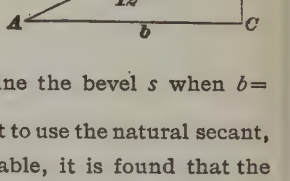
8" 7' 6" 8' 6" 9' 6" 10' 6" 11' 6" 12'

# TABLES OF ANGLES AND NATURAL AND LOGARITHMIC FUNCTIONS CORRESPONDING TO BEVELS GIVEN TO TWELVE INCHES.

The following table gives the amount and the natural and logarithmic functions of the angle whose natural tangent is the bevel, or slope, given to 12 inches. The bevels are indicated in the table by a large figure at the top of the page, which figure is to be taken in combination with the fractions at the extreme left-hand column. Opposite the fractions are given the corresponding angles and their functions, the logarithmic functions being placed on the right-hand page and the natural functions on the left-hand page.

For example, let, in the right triangle $A\,B\,C$ of the accompanying illustration, the slope of the hypotenuse be $4\frac{3}{8}$ inches to 12 inches. To find the angle $A$, refer to the pages having at the top the large figure 4″, on either page of which, opposite the fraction $\frac{3}{8}$, the corresponding angle may be read as 20° 01′ 52″; the natural functions of that angle are given on the left-hand page as sin $A$= 0.34253, csc $A$=2.91946, etc., and the logarithmic functions will be found on the right-hand page as log sin $A$=9.53470, log csc $A$= 0.46530, etc.




Conversely, when the angle $A$ or any of its trigonometric functions or their logarithms are known, the bevel $s$ can be read directly from the table. When the angle $A$ is greater than 45°, the complement of $A$ should be used. The bevel $s$ is then parallel to $A\,C$ instead of to $B\,C$.

EXAMPLE I.—It is desired to determine the bevel $s$ when $b$= 20′ 0″ and $c$=23′ 9″.

SOLUTION.—In this case it is convenient to use the natural secant, which is $\frac{23.75}{20}$=1.1875. Referring to the table, it is found that the corresponding bevel is $7\frac{11}{16}$.

EXAMPLE II.—Let $b$=13′ 7½″ and $c$=20′ 9½″. Find $s$.

SOLUTION.—In this case it is simpler to employ the logarithm of either the cosine or the secant. Using the former, we have, log cos $A$=log $b$—log $c$=1.13367—1.31789=9.81578. As the cosine decreases with the increase of the angle and log cos 45°=9.84949, $A$ is greater than 45°, and $s$ must be taken parallel to $A\,C$. It is evident that the bevel is then the natural tangent of $B$. As cos $A$= sin (90—$A$)=sin $B$, the value 9.81578 just derived becomes log sin $B$ and the corresponding bevel will be found in the table as $10\frac{3}{8}$″.

When one of the sides of the right triangle $A\,B\,C$ and the slope of the hypotenuse are given, the other two sides may be determined

by means of the following formulas, using either the natural or the logarithmic functions, whichever is more convenient to apply for the given case:

$$b = c \cos A = a \cot A \quad (1)$$

$$a = b \tan A = c \sin A \quad (2)$$

$$c = b \sec A = a \csc A \quad (3)$$

Hence, $\log b = \log c + \log \cos A = \log a + \log \cot A$ (4)

$$\log a = \log b + \log \tan A = \log c + \log \sin A \quad (5)$$

$$\log c = \log b + \log \sec A = \log a + \log \csc A \quad (6)$$

EXAMPLE I.—Let in the accompanying illustration, $AC = 20$ inches and the bevel $s = 10\frac{7}{16}$ inches to 12 inches. Find $BC$ and $AB$.

SOLUTION.—In this case it will be more convenient to use natural functions. Applying formulas 2 and 3 and substituting for $b$ the value of 20, and for tan $A$ and sec $A$ the proper values taken from the table, it will be found that

$$a = 20 \times .86979 = 17.3958 = 17\tfrac{11}{32} \text{ in.}$$

and

$$c = 20 \times 1.32534 = 26.5068 = 26\tfrac{1}{2} \text{ in.}$$

EXAMPLE II.—Let $AC = 26' 7\frac{3}{4}''$ and $s = 4\frac{8}{8}$ inches to 12 inches. Required, $a$ and $c$.

SOLUTION.—In this case it will be simpler to use logarithmic functions. Applying formulas 5 and 6 and substituting the proper values, it will be found that

$$\log a = 1.42563 + 9.56180 = 0.98743 = \log\ 9' 8\tfrac{9}{16}''$$

and

$$\log c = 1.42563 + 0.02710 = 1.45273 = \log 28' 4\tfrac{11}{32}''$$

The parallel arrangement of the Tables of Logarithms and Squares may here be taken advantage of for checking the values of $a$ and $c$. Thus, when taking from the table the logarithm of $b$, take at the same time its square, which in our case is 710.0004. Similarly, take the squares of $a$ and $c$ when obtaining their values from the table by their logarithms. In our example these squares are, respectively, $a^2 = 94.3529$ and $c^2 = 804.4019$. Then, the relation $a^2 + b^2 = c^2$ will show whether $a$ and $c$ were determined correctly.

In our example,

$$a^2 = 94.3529$$

$$b^2 = 710.0004$$

$$c^2 = 804.3533 = (28' 4\tfrac{11}{32}'')^2 \text{ nearly}$$

| Fraction of an Inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.00000 | +∞ | 0.00000 | +∞ | 1.00000 | 1.00000 | 0 | 0 | 0 |
| 1/32 | 0.00260 | 384.0012 | 0.00260 | 384.0000 | 1.00000 | 1.00000 | 0 | 08 | 57 |
| 1/16 | 0.00521 | 192.0026 | 0.00521 | 192.0000 | 0.99999 | 1.00001 | 0 | 17 | 54 |
| 3/32 | 0.00781 | 128.0040 | 0.00781 | 128.0000 | 0.99997 | 1.00003 | 0 | 26 | 51 |
| 1/8 | 0.01042 | 96.0052 | 0.01042 | 96.0000 | 0.99995 | 1.00005 | 0 | 35 | 49 |
| 5/32 | 0.01302 | 76.8065 | 0.01302 | 76.8000 | 0.99992 | 1.00008 | 0 | 44 | 46 |
| 3/16 | 0.01562 | 64.0078 | 0.01563 | 64.0000 | 0.99988 | 1.00012 | 0 | 53 | 43 |
| 7/32 | 0.01823 | 54.8663 | 0.01823 | 54.8571 | 0.99983 | 1.00017 | 1 | 02 | 40 |
| 1/4 | 0.02083 | 48.0104 | 0.02083 | 48.0000 | 0.99978 | 1.00022 | 1 | 11 | 37 |
| 9/32 | 0.02343 | 42.6783 | 0.02344 | 42.6667 | 0.99973 | 1.00027 | 1 | 20 | 33 |
| 5/16 | 0.02603 | 38.4130 | 0.02604 | 38.4000 | 0.99966 | 1.00034 | 1 | 29 | 30 |
| 11/32 | 0.02863 | 34.9234 | 0.02865 | 34.9091 | 0.99959 | 1.00041 | 1 | 38 | 27 |
| 3/8 | 0.03123 | 32.0156 | 0.03125 | 32.0000 | 0.99951 | 1.00049 | 1 | 47 | 24 |
| 13/32 | 0.03383 | 29.5554 | 0.03385 | 29.5385 | 0.99943 | 1.00057 | 1 | 56 | 20 |
| 7/16 | 0.03643 | 27.4468 | 0.03646 | 27.4286 | 0.99934 | 1.00066 | 2 | 05 | 17 |
| 15/32 | 0.03903 | 25.6195 | 0.03906 | 25.6000 | 0.99924 | 1.00076 | 2 | 14 | 13 |
| 1/2 | 0.04163 | 24.0208 | 0.04167 | 24.0000 | 0.99913 | 1.00087 | 2 | 23 | 09 |
| 17/32 | 0.04423 | 22.6103 | 0.04427 | 22.5882 | 0.99902 | 1.00098 | 2 | 32 | 06 |
| 9/16 | 0.04682 | 21.3568 | 0.04688 | 21.3333 | 0.99890 | 1.00110 | 2 | 41 | 02 |
| 19/32 | 0.04942 | 20.2352 | 0.04948 | 20.2105 | 0.99878 | 1.00122 | 2 | 49 | 57 |
| 5/8 | 0.05201 | 19.2260 | 0.05208 | 19.2000 | 0.99865 | 1.00136 | 2 | 58 | 53 |
| 21/32 | 0.05461 | 18.3130 | 0.05469 | 18.2857 | 0.99851 | 1.00149 | 3 | 07 | 49 |
| 11/16 | 0.05720 | 17.4430 | 0.05729 | 17.4545 | 0.99836 | 1.00164 | 3 | 16 | 44 |
| 23/32 | 0.05979 | 16.7256 | 0.05990 | 16.6957 | 0.99821 | 1.00179 | 3 | 25 | 40 |
| 3/4 | 0.06238 | 16.0312 | 0.06250 | 16.0000 | 0.99805 | 1.00195 | 3 | 34 | 35 |
| 25/32 | 0.06497 | 15.3925 | 0.06510 | 15.3600 | 0.99789 | 1.00212 | 3 | 43 | 30 |
| 13/16 | 0.06755 | 14.8031 | 0.06771 | 14.7692 | 0.99772 | 1.00229 | 3 | 52 | 25 |
| 27/32 | 0.07014 | 14.2573 | 0.07031 | 14.2222 | 0.99754 | 1.00247 | 4 | 01 | 19 |
| 7/8 | 0.07272 | 13.7507 | 0.07292 | 13.7143 | 0.99735 | 1.00266 | 4 | 10 | 14 |
| 29/32 | 0.07531 | 13.2791 | 0.07552 | 13.2414 | 0.99716 | 1.00285 | 4 | 19 | 08 |
| 15/16 | 0.07789 | 12.8390 | 0.07813 | 12.8000 | 0.99696 | 1.00305 | 4 | 28 | 02 |
| 31/32 | 0.08047 | 12.4274 | 0.08073 | 12.3871 | 0.99676 | 1.00325 | 4 | 36 | 56 |
| 1 | 0.08305 | 12.0416 | 0.08333 | 12.0000 | 0.99655 | 1.00347 | 4 | 45 | 49 |

| Fraction of an inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | $-\infty$ | $+\infty$ | $-\infty$ | $+\infty$ | 0.00000 | 0.00000 | 0 | 0 | 0 |
| 1/32 | 7.41567 | 2.58433 | 7.41567 | 2.58433 | 0.00000 | 0.00000 | 0 | 08 | 57 |
| 1/16 | 7.71669 | 2.28331 | 7.71670 | 2.28330 | 9.99999 | 0.00001 | 0 | 17 | 54 |
| 3/32 | 7.89278 | 2.10722 | 7.89279 | 2.10721 | 9.99999 | 0.00001 | 0 | 26 | 51 |
| 1/8 | 8.01771 | 1.98229 | 8.01773 | 1.98227 | 9.99998 | 0.00002 | 0 | 35 | 49 |
| 5/32 | 8.11460 | 1.88540 | 8.11464 | 1.88536 | 9.99996 | 0.00004 | 0 | 44 | 46 |
| 3/16 | 8.19377 | 1.80623 | 8.19382 | 1.80618 | 9.99995 | 0.00005 | 0 | 53 | 43 |
| 7/32 | 8.26069 | 1.73931 | 8.26077 | 1.73923 | 9.99993 | 0.00007 | 1 | 02 | 40 |
| 1/4 | 8.31866 | 1.68134 | 8.31876 | 1.68124 | 9.99991 | 0.00009 | 1 | 11 | 37 |
| 9/32 | 8.36979 | 1.63021 | 8.36991 | 1.63009 | 9.99988 | 0.00012 | 1 | 20 | 33 |
| 5/16 | 8.41552 | 1.58448 | 8.41567 | 1.58433 | 9.99985 | 0.00015 | 1 | 29 | 30 |
| 11/32 | 8.45688 | 1.54312 | 8.45706 | 1.54294 | 9.99982 | 0.00018 | 1 | 38 | 27 |
| 3/8 | 8.49464 | 1.50536 | 8.49485 | 1.50515 | 9.99979 | 0.00021 | 1 | 47 | 24 |
| 13/32 | 8.52936 | 1.47064 | 8.52961 | 1.47039 | 9.99975 | 0.00025 | 1 | 56 | 20 |
| 7/16 | 8.56151 | 1.43849 | 8.56180 | 1.43820 | 9.99971 | 0.00029 | 2 | 05 | 17 |
| 15/32 | 8.59143 | 1.40857 | 8.59176 | 1.40824 | 9.99967 | 0.00033 | 2 | 14 | 13 |
| 1/2 | 8.61941 | 1.38059 | 8.61979 | 1.38021 | 9.99962 | 0.00038 | 2 | 23 | 09 |
| 17/32 | 8.64569 | 1.35431 | 8.64612 | 1.35388 | 9.99957 | 0.00043 | 2 | 32 | 06 |
| 9/16 | 8.67046 | 1.32954 | 8.67094 | 1.32906 | 9.99952 | 0.00048 | 2 | 41 | 02 |
| 19/32 | 8.69389 | 1.30611 | 8.69442 | 1.30558 | 9.99947 | 0.00053 | 2 | 49 | 57 |
| 5/8 | 8.71611 | 1.28389 | 8.71670 | 1.28330 | 9.99941 | 0.00059 | 2 | 58 | 53 |
| 21/32 | 8.73724 | 1.26276 | 8.73789 | 1.26211 | 9.99935 | 0.00065 | 3 | 07 | 49 |
| 11/16 | 8.75738 | 1.24262 | 8.75809 | 1.24191 | 9.99929 | 0.00071 | 3 | 16 | 44 |
| 23/32 | 8.77662 | 1.22338 | 8.77740 | 1.22260 | 9.99922 | 0.00078 | 3 | 25 | 40 |
| 3/4 | 8.79503 | 1.20497 | 8.79588 | 1.20412 | 9.99915 | 0.00085 | 3 | 34 | 35 |
| 25/32 | 8.81269 | 1.18731 | 8.81361 | 1.18639 | 9.99908 | 0.00092 | 3 | 43 | 30 |
| 13/16 | 8.82965 | 1.17035 | 8.83064 | 1.16936 | 9.99901 | 0.00099 | 3 | 52 | 25 |
| 27/32 | 8.84596 | 1.15404 | 8.84703 | 1.15297 | 9.99893 | 0.00107 | 4 | 01 | 19 |
| 7/8 | 8.86168 | 1.13832 | 8.86283 | 1.13717 | 9.99885 | 0.00115 | 4 | 10 | 14 |
| 29/32 | 8.87683 | 1.12317 | 8.87807 | 1.12193 | 9.99876 | 0.00124 | 4 | 19 | 08 |
| 15/16 | 8.89147 | 1.10853 | 8.89279 | 1.10721 | 9.99868 | 0.00132 | 4 | 28 | 02 |
| 31/32 | 8.90562 | 1.09438 | 8.90703 | 1.09297 | 9.99859 | 0.00141 | 4 | 36 | 56 |
| 1 | 8.91932 | 1.08068 | 8.92082 | 1.07918 | 9.99850 | 0.00150 | 4 | 45 | 49 |

| Fraction of an Inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.08305 | 12.0416 | 0.08333 | 12.0000 | 0.99655 | **1.00347** | 4 | 45 | 49 |
| 1/32 | 0.08562 | 11.6793 | 0.08594 | 11.6364 | 0.99633 | 1.00369 | 4 | 54 | 42 |
| 1/16 | 0.08820 | 11.3383 | 0.08854 | 11.2941 | 0.99610 | 1.00391 | 5 | 03 | 36 |
| 3/32 | 0.09077 | 11.0169 | 0.09115 | 10.9714 | 0.99587 | 1.00415 | 5 | 12 | 28 |
| 1/8 | 0.09334 | 10.7134 | 0.09375 | 10.6667 | 0.99563 | 1.00438 | 5 | 21 | 21 |
| 5/32 | 0.09591 | 10.4264 | 0.09635 | 10.3784 | 0.99539 | 1.00463 | 5 | 30 | 13 |
| 3/16 | 0.09848 | 10.1546 | 0.09896 | 10.1053 | 0.99514 | 1.00488 | 5 | 39 | 05 |
| 7/32 | 0.10104 | 9.89680 | 0.10156 | 9.84615 | 0.99488 | 1.00514 | 5 | 47 | 57 |
| 1/4 | 0.10361 | 9.65194 | 0.10417 | 9.60000 | 0.99462 | 1.00541 | 5 | 56 | 49 |
| 9/32 | 0.10617 | 9.41908 | 0.10677 | 9.36585 | 0.99435 | 1.00568 | 6 | 05 | 40 |
| 5/16 | 0.10873 | 9.19738 | 0.10938 | 9.14286 | 0.99407 | 1.00596 | 6 | 14 | 31 |
| 11/32 | 0.11128 | 8.89605 | 0.11198 | 8.93023 | 0.99379 | 1.00625 | 6 | 23 | 22 |
| 3/8 | 0.11384 | 8.78437 | 0.11458 | 8.72727 | 0.99350 | 1.00654 | 6 | 32 | 12 |
| 13/32 | 0.11639 | 8.59172 | 0.11719 | 8.53333 | 0.99320 | 1.00684 | 6 | 41 | 02 |
| 7/16 | 0.11894 | 8.40751 | 0.11979 | 8.34783 | 0.99290 | 1.00715 | 6 | 49 | 52 |
| 15/32 | 0.12149 | 8.23119 | 0.12240 | 8.17021 | 0.99259 | 1.00746 | 6 | 58 | 41 |
| 1/2 | 0.12403 | 8.06226 | 0.12500 | 8.00000 | 0.99228 | 1.00778 | 7 | 07 | 30 |
| 17/32 | 0.12658 | 7.90028 | 0.12760 | 7.83673 | 0.99196 | 1.00811 | 7 | 16 | 19 |
| 9/16 | 0.12912 | 7.74483 | 0.13021 | 7.68000 | 0.99163 | 1.00844 | 7 | 25 | 07 |
| 19/32 | 0.13166 | 7.59552 | 0.13281 | 7.52941 | 0.99130 | 1.00878 | 7 | 33 | 55 |
| 5/8 | 0.13419 | 7.45202 | 0.13542 | 7.38462 | 0.99096 | 1.00913 | 7 | 42 | 43 |
| 21/32 | 0.13672 | 7.31396 | 0.13802 | 7.24528 | 0.99061 | 1.00948 | 7 | 51 | 30 |
| 11/16 | 0.13925 | 7.18108 | 0.14063 | 7.11111 | 0.99026 | 1.00984 | 8 | 00 | 17 |
| 23/32 | 0.14178 | 7.05307 | 0.14323 | 6.98182 | 0.98990 | 1.01021 | 8 | 09 | 04 |
| 3/4 | 0.14431 | 6.92967 | 0.14583 | 6.85714 | 0.98953 | 1.01058 | 8 | 17 | 50 |
| 25/32 | 0.14683 | 6.81065 | 0.14844 | 6.73684 | 0.98916 | 1.01096 | 8 | 26 | 35 |
| 13/16 | 0.14935 | 6.69579 | 0.15104 | 6.62069 | 0.98878 | 1.01134 | 8 | 35 | 21 |
| 27/32 | 0.15186 | 6.58485 | 0.15365 | 6.50847 | 0.98840 | 1.01173 | 8 | 44 | 06 |
| 7/8 | 0.15438 | 6.47766 | 0.15625 | 6.40000 | 0.98801 | 1.01213 | 8 | 52 | 50 |
| 29/32 | 0.15689 | 6.37401 | 0.15885 | 6.29508 | 0.98762 | 1.01254 | 9 | 01 | 35 |
| 15/16 | 0.15939 | 6.27376 | 0.16146 | 6.19355 | 0.98722 | 1.01295 | 9 | 10 | 18 |
| 31/32 | 0.16190 | 6.17673 | 0.16406 | 6.09524 | 0.98681 | 1.01337 | 9 | 19 | 02 |
| 1 | 0.16440 | 6.08276 | 0.16667 | 6.00000 | 0.98639 | 1.01379 | 9 | 27 | 44 |

| Fraction of an Inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 8.91932 | 1.08068 | 8.92082 | 1.07918 | 9.99850 | 0.00150 | 4 | 45 | 49 |
| 1/32 | 8.93258 | 1.06742 | 8.93418 | 1.06582 | 9.99840 | 0.00160 | 4 | 54 | 42 |
| 1/16 | 8.94545 | 1.05455 | 8.94715 | 1.05285 | 9.99830 | 0.00170 | 5 | 03 | 36 |
| 3/32 | 8.95794 | 1.04206 | 8.95974 | 1.04026 | 9.99820 | 0.00180 | 5 | 12 | 28 |
| 1/8 | 8.97007 | 1.02993 | 8.97197 | 1.02803 | 9.99810 | 0.00190 | 5 | 21 | 21 |
| 5/32 | 8.98186 | 1.01814 | 8.98387 | 1.01613 | 9.99799 | 0.00201 | 5 | 30 | 13 |
| 3/16 | 8.99334 | 1.00666 | 8.99545 | 1.00455 | 9.99788 | 0.00212 | 5 | 39 | 05 |
| 7/32 | 9.00450 | 0.99550 | 9.00673 | 0.99327 | 9.99777 | 0.00223 | 5 | 47 | 57 |
| 1/4 | 9.01539 | 0.98461 | 9.01773 | 0.98227 | 9.99766 | 0.00234 | 5 | 56 | 49 |
| 9/32 | 9.02599 | 0.97401 | 9.02845 | 0.97155 | 9.99754 | 0.00246 | 6 | 05 | 40 |
| 5/16 | 9.03634 | 0.96366 | 9.03892 | 0.96108 | 9.99742 | 0.00258 | 6 | 14 | 31 |
| 11/32 | 9.04643 | 0.95357 | 9.04914 | 0.95086 | 9.99729 | 0.00271 | 6 | 23 | 22 |
| 3/8 | 9.05629 | 0.94371 | 9.05912 | 0.94088 | 9.99717 | 0.00283 | 6 | 32 | 12 |
| 13/32 | 9.06592 | 0.93408 | 9.06888 | 0.93112 | 9.99704 | 0.00296 | 6 | 41 | 02 |
| 7/16 | 9.07533 | 0.92467 | 9.07843 | 0.92157 | 9.99691 | 0.00309 | 6 | 49 | 52 |
| 15/32 | 9.08454 | 0.91546 | 9.08777 | 0.91223 | 9.99677 | 0.00323 | 6 | 58 | 41 |
| 1/2 | 9.09354 | 0.90646 | 9.09691 | 0.90309 | 9.99663 | 0.00337 | 7 | 07 | 30 |
| 17/32 | 9.10236 | 0.89764 | 9.10586 | 0.89414 | 9.99649 | 0.00351 | 7 | 16 | 19 |
| 9/16 | 9.11099 | 0.88901 | 9.11464 | 0.88536 | 9.99635 | 0.00365 | 7 | 25 | 07 |
| 19/32 | 9.11944 | 0.88056 | 9.12324 | 0.87676 | 9.99620 | 0.00380 | 7 | 33 | 55 |
| 5/8 | 9.12773 | 0.87227 | 9.13167 | 0.86833 | 9.99605 | 0.00395 | 7 | 42 | 43 |
| 21/32 | 9.13585 | 0.86415 | 9.13994 | 0.86006 | 9.99590 | 0.00410 | 7 | 51 | 30 |
| 11/16 | 9.14381 | 0.85619 | 9.14806 | 0.85194 | 9.99575 | 0.00425 | 8 | 00 | 17 |
| 23/32 | 9.15162 | 0.84838 | 9.15603 | 0.84397 | 9.99559 | 0.00441 | 8 | 09 | 04 |
| 3/4 | 9.15929 | 0.84071 | 9.16386 | 0.83614 | 9.99543 | 0.00457 | 8 | 17 | 50 |
| 25/32 | 9.16681 | 0.83319 | 9.17154 | 0.82846 | 9 99527 | 0.00473 | 8 | 26 | 35 |
| 13/16 | 9.17420 | 0.82580 | 9.17910 | 0.82090 | 9.99510 | 0.00490 | 8 | 35 | 21 |
| 27/32 | 9.18145 | 0.81855 | 9.18652 | 0.81348 | 9.99493 | 0.00507 | 8 | 44 | 06 |
| 7/8 | 9.18858 | 0.81142 | 9.19382 | 0.80618 | 9.99476 | 0.00524 | 8 | 52 | 50 |
| 29/32 | 9.19559 | 0.80441 | 9.20100 | 0.79900 | 9.99459 | 0.00541 | 9 | 01 | 35 |
| 15/16 | 9.20247 | 0.79753 | 9.20806 | 0.79194 | 9.99441 | 0.00559 | 9 | 10 | 18 |
| 31/32 | 9.20924 | 0.79076 | 9.21501 | 0.78499 | 9.99423 | 0.00577 | 9 | 19 | 02 |
| 1 | 9.21590 | 0.78410 | 9.22185 | 0.77815 | 9.99405 | 0.00595 | 9 | 27 | 44 |

| Fraction of an inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.16440 | 6.08276 | 0.16667 | 6.00000 | 0.98639 | 1.01379 | 9 | 27 | 44 |
| 1/32 | 0.16690 | 5.99173 | 0.16927 | 5.90769 | 0.98597 | 1.01423 | 9 | 36 | 27 |
| 1/16 | 0.16939 | 5.90350 | 0.17188 | 5.81818 | 0.98555 | 1.01466 | 9 | 45 | 09 |
| 3/32 | 0.17188 | 5.81793 | 0.17448 | 5.73134 | 0.98512 | 1.01511 | 9 | 53 | 50 |
| 1/8 | 0.17437 | 5.73492 | 0.17708 | 5.64706 | 0.98468 | 1.01556 | 10 | 02 | 31 |
| 5/32 | 0.17686 | 5.65435 | 0.17969 | 5.56522 | 0.98424 | 1.01602 | 10 | 11 | 12 |
| 3/16 | 0.17934 | 5.57611 | 0.18229 | 5.48571 | 0.98379 | 1.01648 | 10 | 19 | 52 |
| 7/32 | 0.18181 | 5.50012 | 0.18490 | 5.40845 | 0.98333 | 1.01695 | 10 | 28 | 32 |
| 1/4 | 0.18429 | 5.42627 | 0.18750 | 5.33333 | 0.98287 | 1.01743 | 10 | 37 | 11 |
| 9/32 | 0.18676 | 5.35448 | 0.19010 | 5.26027 | 0.98241 | 1.01791 | 10 | 45 | 49 |
| 5/16 | 0.18923 | 5.28467 | 0.19271 | 5.18919 | 0.98193 | 1.01840 | 10 | 54 | 28 |
| 11/32 | 0.19169 | 5.21674 | 0.19531 | 5.12000 | 0.98146 | 1.01890 | 11 | 03 | 05 |
| 3/8 | 0.19415 | 5.15064 | 0.19792 | 5.05263 | 0.98097 | 1.01940 | 11 | 11 | 42 |
| 13/32 | 0.19661 | 5.08628 | 0.20052 | 4.98701 | 0.98048 | 1.01991 | 11 | 20 | 19 |
| 7/16 | 0.19906 | 5.02361 | 0.20313 | 4.92308 | 0.97999 | 1.02042 | 11 | 28 | 55 |
| 15/32 | 0.20151 | 4.96256 | 0.20573 | 4.86076 | 0.97949 | 1.02094 | 11 | 37 | 31 |
| 1/2 | 0.20395 | 4.90306 | 0.20833 | 4.80000 | 0.97898 | 1.02147 | 11 | 46 | 06 |
| 17/32 | 0.20640 | 4.84506 | 0.21094 | 4.74074 | 0.97847 | 1.02201 | 11 | 54 | 40 |
| 9/16 | 0.20883 | 4.78850 | 0.21354 | 4.68293 | 0.97795 | 1.02255 | 12 | 03 | 14 |
| 19/32 | 0.21127 | 4.73334 | 0.21615 | 4.62651 | 0.97743 | 1.02309 | 12 | 11 | 48 |
| 5/8 | 0.21370 | 4.67953 | 0.21875 | 4.57143 | 0.97690 | 1.02364 | 12 | 20 | 21 |
| 21/32 | 0.21612 | 4.62700 | 0.22135 | 4.51765 | 0.97637 | 1.02421 | 12 | 28 | 53 |
| 11/16 | 0.21854 | 4.57573 | 0.22396 | 4.46512 | 0.97583 | 1.02477 | 12 | 37 | 25 |
| 23/32 | 0.22096 | 4.52565 | 0.22656 | 4.41379 | 0.97528 | 1.02534 | 12 | 45 | 56 |
| 3/4 | 0.22338 | 4.47675 | 0.22917 | 4.36364 | 0.97473 | 1.02592 | 12 | 54 | 27 |
| 25/32 | 0.22579 | 4.42897 | 0.23177 | 4.31461 | 0.97418 | 1.02651 | 13 | 02 | 57 |
| 13/16 | 0.22819 | 4.38229 | 0.23438 | 4.26667 | 0.97362 | 1.02710 | 13 | 11 | 26 |
| 27/32 | 0.23059 | 4.33665 | 0.23698 | 4.21978 | 0.97305 | 1.02770 | 13 | 19 | 55 |
| 7/8 | 0.23299 | 4.29203 | 0.23958 | 4.17391 | 0.97248 | 1.02830 | 13 | 28 | 23 |
| 29/32 | 0.23538 | 4.24840 | 0.24219 | 4.12903 | 0.97190 | 1.02891 | 13 | 36 | 51 |
| 15/16 | 0.23777 | 4.20572 | 0.24479 | 4.08511 | 0.97132 | 1.02953 | 13 | 45 | 18 |
| 31/32 | 0.24016 | 4.16397 | 0.24740 | 4.04211 | 0.97073 | 1.03015 | 13 | 53 | 45 |
| 1 | 0.24254 | 4.12311 | 0.25000 | 4.00000 | 0.97014 | 1.03078 | 14 | 02 | 10 |

| Fraction of an inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 9.21590 | 0.78410 | 9.22185 | 0.77815 | 9.99405 | 0.00595 | 9 | 27 | 44 |
| 1/32 | 9.22245 | 0.77755 | 9.22858 | 0.77142 | 9.99387 | 0.00613 | 9 | 36 | 27 |
| 1/16 | 9.22889 | 0.77111 | 9.23521 | 0.76479 | 9.99368 | 0.00632 | 9 | 45 | 09 |
| 3/32 | 9.23523 | 0.76477 | 9.24174 | 0.75826 | 9.99349 | 0.00651 | 9 | 53 | 50 |
| 1/8 | 9.24147 | 0.75853 | 9.24818 | 0.75182 | 9.99330 | 0.00670 | 10 | 02 | 31 |
| 5/32 | 9.24762 | 0.75238 | 9.25452 | 0.74548 | 9.99310 | 0.00690 | 10 | 11 | 12 |
| 3/16 | 9.25367 | 0.74633 | 9.26077 | 0.73923 | 9.99290 | 0.00710 | 10 | 19 | 52 |
| 7/32 | 9.25963 | 0.74037 | 9.26693 | 0.73307 | 9.99270 | 0.00730 | 10 | 28 | 32 |
| 1/4 | 9.26550 | 0.73450 | 9.27300 | 0.72700 | 9.99250 | 0.00750 | 10 | 37 | 11 |
| 9/32 | 9.27128 | 0.72872 | 9.27899 | 0.72101 | 9.99229 | 0.00771 | 10 | 45 | 49 |
| 5/16 | 9.27698 | 0.72302 | 9.28490 | 0.71510 | 9.99208 | 0.00792 | 10 | 54 | 28 |
| 11/32 | 9.28260 | 0.71740 | 9.29073 | 0.70927 | 9.99187 | 0.00813 | 11 | 03 | 05 |
| 3/8 | 9.28814 | 0.71186 | 9.29648 | 0.70352 | 9.99166 | 0.00834 | 11 | 11 | 42 |
| 13/32 | 9.29360 | 0.70640 | 9.30216 | 0.69784 | 9.99144 | 0.00856 | 11 | 20 | 19 |
| 7/16 | 9.29898 | 0.70102 | 9.30776 | 0.69224 | 9.99122 | 0.00878 | 11 | 28 | 55 |
| 15/32 | 9.30429 | 0.69571 | 9.31330 | 0.68670 | 9.99100 | 0.00900 | 11 | 37 | 31 |
| 1/2 | 9.30953 | 0.69047 | 9.31876 | 0.68124 | 9.99077 | 0.00923 | 11 | 46 | 06 |
| 17/32 | 9.31470 | 0.68530 | 9.32415 | 0.67585 | 9.99055 | 0.00945 | 11 | 54 | 40 |
| 9/16 | 9.31980 | 0.68020 | 9.32948 | 0.67052 | 9.99032 | 0.00968 | 12 | 03 | 14 |
| 19/32 | 9.32483 | 0.67517 | 9.33475 | 0.66525 | 9.99008 | 0.00992 | 12 | 11 | 48 |
| 5/8 | 9.32980 | 0.67020 | 9.33995 | 0.66005 | 9.98985 | 0.01015 | 12 | 20 | 21 |
| 21/32 | 9.33470 | 0.66530 | 9.34509 | 0.65491 | 9.98961 | 0.01039 | 12 | 28 | 53 |
| 11/16 | 9.33954 | 0.66046 | 9.35017 | 0.64983 | 9.98937 | 0.01063 | 12 | 37 | 25 |
| 23/32 | 9.34432 | 0.65568 | 9.35519 | 0.64481 | 9.98913 | 0.01087 | 12 | 45 | 56 |
| 3/4 | 9.34904 | 0.65096 | 9.36015 | 0.63985 | 9.98889 | 0.01111 | 12 | 54 | 27 |
| 25/32 | 9.35370 | 0.64630 | 9.36506 | 0.63494 | 9.98864 | 0.01136 | 13 | 02 | 57 |
| 13/16 | 9.35830 | 0.64170 | 9.36991 | 0.63009 | 9.98839 | 0.01161 | 13 | 11 | 26 |
| 27/32 | 9.36285 | 0.63715 | 9.37471 | 0.62529 | 9.98814 | 0.01186 | 13 | 19 | 55 |
| 7/8 | 9.36734 | 0.63266 | 9.37946 | 0.62054 | 9.98788 | 0.01212 | 13 | 28 | 23 |
| 29/32 | 9.37177 | 0.62823 | 9.38415 | 0.61585 | 9.98762 | 0.01238 | 13 | 36 | 51 |
| 15/16 | 9.37616 | 0.62384 | 9.38880 | 0.61120 | 9.98736 | 0.01264 | 13 | 45 | 18 |
| 31/32 | 9.38049 | 0.61951 | 9.39339 | 0.60661 | 9.98710 | 0.01290 | 13 | 53 | 45 |
| 1 | 9.38478 | 0.61522 | 9.39794 | 0.60206 | 9.98684 | 0.01316 | 14 | 02 | 16 |

| Fraction of an inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.24254 | 4.12311 | 0.25000 | 4.00000 | 0.97014 | 1.03078 | 14 | 02 | 10 |
| 1/32 | 0.24491 | 4.08311 | 0.25260 | 3.95876 | 0.96955 | 1.03141 | 14 | 10 | 36 |
| 1/16 | 0.24728 | 4.04396 | 0.25521 | 3.91837 | 0.96894 | 1.03205 | 14 | 19 | 00 |
| 3/32 | 0.24965 | 4.00562 | 0.25781 | 3.87879 | 0.96834 | 1.03270 | 14 | 27 | 24 |
| 1/8 | 0.25201 | 3.96807 | 0.26042 | 3.84000 | 0.96772 | 1.03335 | 14 | 35 | 48 |
| 5/32 | 0.25437 | 3.93129 | 0.26302 | 3.80198 | 0.96711 | 1.03401 | 14 | 44 | 10 |
| 3/16 | 0.25672 | 3.89525 | 0.26563 | 3.76471 | 0.96649 | 1.03468 | 14 | 52 | 32 |
| 7/32 | 0.25907 | 3.85994 | 0.26823 | 3.72816 | 0.96586 | 1.03535 | 15 | 00 | 54 |
| 1/4 | 0.26142 | 3.82533 | 0.27083 | 3.69231 | 0.96523 | 1.03603 | 15 | 09 | 15 |
| 9/32 | 0.26375 | 3.79140 | 0.27344 | 3.65714 | 0.96459 | 1.03671 | 15 | 17 | 35 |
| 5/16 | 0.26609 | 3.75813 | 0.27604 | 3.62264 | 0.96395 | 1.03740 | 15 | 25 | 54 |
| 11/32 | 0.26842 | 3.72550 | 0.27865 | 3.58879 | 0.96330 | 1.03810 | 15 | 34 | 13 |
| 3/8 | 0.27075 | 3.69350 | 0.28125 | 3.55556 | 0.96265 | 1.03880 | 15 | 42 | 31 |
| 13/32 | 0.27307 | 3.66211 | 0.28385 | 3.52294 | 0.96200 | 1.03951 | 15 | 50 | 49 |
| 7/16 | 0.27538 | 3.63131 | 0.28646 | 3.49091 | 0.96133 | 1.04022 | 15 | 59 | 05 |
| 15/32 | 0.27769 | 3.60109 | 0.28906 | 3.45946 | 0.96067 | 1.04094 | 16 | 07 | 21 |
| 1/2 | 0.28000 | 3.57143 | 0.29167 | 3.42857 | 0.96000 | 1.04167 | 16 | 15 | 37 |
| 17/32 | 0.28230 | 3.54231 | 0.29427 | 3.39823 | 0.95933 | 1.04240 | 16 | 23 | 51 |
| 9/16 | 0.28460 | 3.51372 | 0.29688 | 3.36842 | 0.95865 | 1.04314 | 16 | 32 | 05 |
| 19/32 | 0.28689 | 3.48566 | 0.29948 | 3.33913 | 0.95796 | 1.04388 | 16 | 40 | 19 |
| 5/8 | 0.28918 | 3.45809 | 0.30208 | 3.31034 | 0.95728 | 1.04463 | 16 | 48 | 31 |
| 21/32 | 0.29146 | 3.43101 | 0.30469 | 3.28205 | 0.95658 | 1.04539 | 16 | 56 | 43 |
| 11/16 | 0.29374 | 3.40442 | 0.30729 | 3.25424 | 0.95589 | 1.04615 | 17 | 04 | 54 |
| 23/32 | 0.29601 | 3.37829 | 0.30990 | 3.22689 | 0.95519 | 1.04692 | 17 | 13 | 05 |
| 3/4 | 0.29827 | 3.35261 | 0.31250 | 3.20000 | 0.95448 | 1.04769 | 17 | 21 | 14 |
| 25/32 | 0.30054 | 3.32738 | 0.31510 | 3.17355 | 0.95377 | 1.04847 | 17 | 29 | 23 |
| 13/16 | 0.30279 | 3.30258 | 0.31771 | 3.14754 | 0.95306 | 1.04926 | 17 | 37 | 32 |
| 27/32 | 0.30505 | 3.27820 | 0.32031 | 3.12195 | 0.95234 | 1.05005 | 17 | 45 | 39 |
| 7/8 | 0.30729 | 3.25423 | 0.32292 | 3.09677 | 0.95161 | 1.05085 | 17 | 53 | 46 |
| 29/32 | 0.30953 | 3.23066 | 0.32552 | 3.07200 | 0.95089 | 1.05165 | 18 | 01 | 52 |
| 15/16 | 0.31177 | 3.20749 | 0.32813 | 3.04762 | 0.95016 | 1.05246 | 18 | 09 | 57 |
| 31/32 | 0.31400 | 3.18470 | 0.33073 | 3.02362 | 0.94942 | 1.05327 | 18 | 18 | 02 |
| 1 | 0.31623 | 3.16228 | 0.33333 | 3.00000 | 0.94868 | 1.05409 | 18 | 26 | 06 |

3"

| Fraction of an Inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 9.38478 | 0.61522 | 9.39794 | 0.60206 | 9.98684 | 0.01316 | 14 | 02 | 10 |
| 1/32 | 9.38901 | 0.61099 | 9.40244 | 0.59756 | 9.98657 | 0.01343 | 14 | 10 | 36 |
| 1/16 | 9.39319 | 0.60681 | 9.40689 | 0.59311 | 9.98630 | 0.01370 | 14 | 19 | 00 |
| 3/32 | 9.39733 | 0.60267 | 9.41130 | 0.58870 | 9.98603 | 0.01397 | 14 | 27 | 24 |
| 1/8 | 9.40142 | 0.59858 | 9.41567 | 0.58433 | 9 98575 | 0.01425 | 14 | 35 | 48 |
| 5/32 | 9.40546 | 0.59454 | 9.41999 | 0.58001 | 9.98547 | 0.01453 | 14 | 44 | 10 |
| 3/16 | 9.40946 | 0.59054 | 9.42427 | 0.57573 | 9.98520 | 0.01480 | 14 | 52 | 32 |
| 7/32 | 9.41342 | 0.58658 | 9.42851 | 0.57149 | 9.98491 | 0.01509 | 15 | 00 | 54 |
| 1/4 | 9.41733 | 0.58267 | 9.43270 | 0.56730 | 9.98463 | 0.01537 | 15 | 09 | 15 |
| 9/32 | 9.42120 | 0.57880 | 9:43686 | 0.56314 | 9.98434 | 0.01566 | 15 | 17 | 35 |
| 5/16 | 9.42503 | 0.57497 | 9.44097 | 0.55903 | 9.98405 | 0.01595 | 15 | 25 | 54 |
| 11/32 | 9.42881 | 0.57119 | 9.44505 | 0.55495 | 9.98376 | 0.01624 | 15 | 34 | 13 |
| 3/8 | 9.43256 | 0.56744 | 9.44909 | 0.55091 | 9.98347 | 0.01653 | 15 | 42 | 31 |
| 13/32 | 9.43627 | 0.56373 | 9.45310 | 0.54690 | 9.98317 | 0.01683 | 15 | 50 | 49 |
| 7/16 | 9.43994 | 0.56006 | 9.45706 | 0.54294 | 9.98287 | 0.01713 | 15 | 59 | 05 |
| 15/32 | 9.44357 | 0.55643 | 9.46099 | 0.53901 | 9.98257 | 0.01743 | 16 | 07 | 21 |
| 1/2 | 9.44716 | 0.55284 | 9.46489 | 0.53511 | 9.98227 | 0.01773 | 16 | 15 | 37 |
| 17/32 | 9.45071 | 0.54929 | 9.46875 | 0.53125 | 9.98197 | 0.01803 | 16 | 23 | 51 |
| 9/16 | 9.45423 | 0.54577 | 9.47257 | 0.52743 | 9.98166 | 0.01834 | 16 | 32 | 05 |
| 19/32 | 9.45772 | 0.54228 | 9.47637 | 0.52363 | 9.98135 | 0.01865 | 16 | 40 | 19 |
| 5/8 | 9.46116 | 0.53884 | 9.48013 | 0.51987 | 9.98104 | 0.01896 | 16 | 48 | 31 |
| 21/32 | 9.46458 | 0.53542 | 9.48385 | 0.51615 | 9.98072 | 0.01928 | 16 | 56 | 43 |
| 11/16 | 9.46796 | 0.53204 | 9.48755 | 0.51245 | 9.98041 | 0.01959 | 17 | 04 | 54 |
| 23/32 | 9.47130 | 0.52870 | 9.49122 | 0.50878 | 9.98009 | 0.01991 | 17 | 13 | 05 |
| 3/4 | 9.47462 | 0.52538 | 9.49485 | 0.50515 | 9.97977 | 0.02023 | 17 | 21 | 14 |
| 25/32 | 9.47790 | 0.52210 | 9.49845 | 0.50155 | 9.97944 | 0.02056 | 17 | 29 | 23 |
| 13/16 | 9.48115 | 0.51885 | 9.50203 | 0.49797 | 9.97912 | 0.02088 | 17 | 37 | 32 |
| 27/32 | 9.48436 | 0.51564 | 9.50557 | 0.49443 | 9.97879 | 0.02121 | 17 | 45 | 39 |
| 7/8 | 9.48755 | 0.51245 | 9.50909 | 0.49091 | 9.97846 | 0.02154 | 17 | 53 | 46 |
| 29/32 | 9.49071 | 0.50929 | 9.51258 | 0.48742 | 9.97813 | 0.02187 | 18 | 01 | 52 |
| 15/16 | 9.49383 | 0.50617 | 9.51604 | 0.48396 | 9.97780 | 0.02220 | 18 | 09 | 57 |
| 31/32 | 9.49693 | 0.50307 | 9.51947 | 0.48053 | 9.97746 | 0.02254 | 18 | 18 | 02 |
| 1 | 9.50000 | 0.50000 | 9.52288 | 0.47712 | 9.97712 | 0.02288 | 18 | 26 | 06 |

| Fraction of an Inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.31623 | 3.16228 | 0.33333 | 3.00000 | 0.94868 | 1.05409 | 18 | 26 | 06 |
| 1/32 | 0.31845 | 3.14022 | 0.33594 | 2.97674 | 0.94794 | 1.05492 | 18 | 34 | 09 |
| 1/16 | 0.32066 | 3.11853 | 0.33854 | 2.95385 | 0.94719 | 1.05575 | 18 | 42 | 11 |
| 3/32 | 0.32287 | 3.09718 | 0.34115 | 2.93130 | 0.94644 | 1.05659 | 18 | 50 | 13 |
| 1/8 | 0.32508 | 3.07617 | 0.34375 | 2.90909 | 0.94569 | 1.05743 | 18 | 58 | 13 |
| 5/32 | 0.32728 | 3.05549 | 0.34635 | 2.88722 | 0.94493 | 1.05828 | 19 | 06 | 13 |
| 3/16 | 0.32947 | 3.03514 | 0.34896 | 2.86567 | 0.94416 | 1.05914 | 19 | 14 | 12 |
| 7/32 | 0.33166 | 3.01511 | 0.35156 | 2.84444 | 0.94340 | 1.06000 | 19 | 22 | 11 |
| 1/4 | 0.33385 | 2.99538 | 0.35417 | 2.82353 | 0.94263 | 1.06086 | 19 | 30 | 09 |
| 9/32 | 0.33603 | 2.97596 | 0.35677 | 2.80292 | 0.94185 | 1.06174 | 19 | 38 | 06 |
| 5/16 | 0.33820 | 2.95684 | 0.35938 | 2.78261 | 0.94107 | 1.06262 | 19 | 46 | 02 |
| 11/32 | 0.34037 | 2.93801 | 0.36198 | 2.76259 | 0.94029 | 1.06350 | 19 | 53 | 57 |
| 3/8 | 0.34253 | 2.91946 | 0.36458 | 2.74286 | 0.93951 | 1.06439 | 20 | 01 | 52 |
| 13/32 | 0.34469 | 2.90119 | 0.36719 | 2.72340 | 0.93872 | 1.06528 | 20 | 09 | 45 |
| 7/16 | 0.34684 | 2.88320 | 0.36979 | 2.70423 | 0.93793 | 1.06618 | 20 | 17 | 38 |
| 15/32 | 0.34898 | 2.86547 | 0.37240 | 2.68531 | 0.93713 | 1.06709 | 20 | 25 | 30 |
| 1/2 | 0.35112 | 2.84800 | 0.37500 | 2.66667 | 0.93633 | 1.06800 | 20 | 33 | 22 |
| 17/32 | 0.35326 | 2.83079 | 0.37760 | 2.64828 | 0.93553 | 1.06892 | 20 | 41 | 12 |
| 9/16 | 0.35539 | 2.81383 | 0.38021 | 2.63014 | 0.93472 | 1.06984 | 20 | 49 | 02 |
| 19/32 | 0.35751 | 2.79711 | 0.38281 | 2.61224 | 0.93391 | 1.07077 | 20 | 56 | 51 |
| 5/8 | 0.35963 | 2.78063 | 0.38542 | 2.59459 | 0.93310 | 1.07170 | 21 | 04 | 39 |
| 21/32 | 0.36174 | 2.76439 | 0.38802 | 2.57718 | 0.93228 | 1.07264 | 21 | 12 | 26 |
| 11/16 | 0.36385 | 2.74838 | 0.39063 | 2.56000 | 0.93146 | 1.07359 | 21 | 20 | 13 |
| 23/32 | 0.36595 | 2.73260 | 0.39323 | 2.54305 | 0.93063 | 1.07454 | 21 | 27 | 58 |
| 3/4 | 0.36805 | 2.71703 | 0.39583 | 2.52632 | 0.92981 | 1.07549 | 21 | 35 | 43 |
| 25/32 | 0.37014 | 2.70169 | 0.39844 | 2.50980 | 0.92898 | 1.07645 | 21 | 43 | 27 |
| 13/16 | 0.37222 | 2.68656 | 0.40104 | 2.49351 | 0.92814 | 1.07742 | 21 | 51 | 10 |
| 27/32 | 0.37430 | 2.67163 | 0.40365 | 2.47742 | 0.92731 | 1.07839 | 21 | 58 | 52 |
| 7/8 | 0.37638 | 2.65691 | 0.40625 | 2.46154 | 0.92647 | 1.07937 | 22 | 06 | 34 |
| 29/32 | 0.37844 | 2.64239 | 0.40885 | 2.44586 | 0.92562 | 1.08035 | 22 | 14 | 15 |
| 15/16 | 0.38051 | 2.62807 | 0.41146 | 2.43038 | 0.92478 | 1.08134 | 22 | 21 | 54 |
| 31/32 | 0.38256 | 2.61394 | 0.41406 | 2.41509 | 0.92393 | 1.08233 | 22 | 29 | 33 |
| 1 | 0.38462 | 2.60000 | 0.41667 | 2.40000 | 0.92308 | 1.08333 | 22 | 37 | 12 |

4"

| Fraction of an inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 9.50000 | 0.50000 | 9.52288 | 0.47712 | 9.97712 | 0.02288 | 18 | 26 | 06 |
| 1/32 | 9.50304 | 0.49696 | 9.52626 | 0.47374 | 9.97678 | 0.02322 | 18 | 34 | 09 |
| 1/16 | 9.50605 | 0.49395 | 9.52961 | 0.47039 | 9.97644 | 0.02356 | 18 | 42 | 11 |
| 3/32 | 9.50903 | 0.49097 | 9.53294 | 0.46706 | 9.97609 | 0.02391 | 18 | 50 | 13 |
| 1/8 | 9.51199 | 0.48801 | 9.53624 | 0.46376 | 9.97575 | 0.02425 | 18 | 58 | 13 |
| 5/32 | 9.51492 | 0.48508 | 9.53952 | 0.46048 | 9.97540 | 0.02460 | 19 | 06 | 13 |
| 3/16 | 9.51782 | 0.48218 | 9.54277 | 0.45723 | 9.97505 | 0.02495 | 19 | 14 | 12 |
| 7/32 | 9.52070 | 0.47930 | 9.54600 | 0.45400 | 9.97469 | 0.02531 | 19 | 22 | 11 |
| 1/4 | 9.52355 | 0.47645 | 9.54921 | 0.45079 | 9.97434 | 0.02566 | 19 | 30 | 09 |
| 9/32 | 9.52637 | 0.47363 | 9.55239 | 0.44761 | 9.97398 | 0.02602 | 19 | 38 | 06 |
| 5/16 | 9.52917 | 0.47083 | 9.55555 | 0.44445 | 9.97362 | 0.02638 | 19 | 46 | 02 |
| 11/32 | 9.53195 | 0.46805 | 9.55868 | 0.44132 | 9.97326 | 0.02674 | 19 | 53 | 57 |
| 3/8 | 9.53470 | 0.46530 | 9.56180 | 0.43820 | 9.97290 | 0.02710 | 20 | 01 | 52 |
| 13/32 | 9.53742 | 0.46258 | 9.56489 | 0.43511 | 9.97254 | 0.02746 | 20 | 09 | 45 |
| 7/16 | 9.54013 | 0.45987 | 9.56796 | 0.43204 | 9.97217 | 0.02783 | 20 | 17 | 38 |
| 15/32 | 9.54280 | 0.45720 | 9.57100 | 0.42900 | 9.97180 | 0.02820 | 20 | 25 | 30 |
| 1/2 | 9.54546 | 0.45454 | 9.57403 | 0.42597 | 9.97143 | 0.02857 | 20 | 33 | 22 |
| 17/32 | 9.54809 | 0.45191 | 9.57704 | 0.42296 | 9.97106 | 0.02894 | 20 | 41 | 12 |
| 9/16 | 9.55070 | 0.44930 | 9.58002 | 0.41998 | 9.97068 | 0.02932 | 20 | 49 | 02 |
| 19/32 | 9.55329 | 0.44671 | 9.58299 | 0.41701 | 9.97030 | 0.02970 | 20 | 56 | 51 |
| 5/8 | 9.55586 | 0.44414 | 9.58593 | 0.41407 | 9.96993 | 0.03007 | 21 | 04 | 39 |
| 21/32 | 9.55840 | 0.44160 | 9.58886 | 0.41114 | 9.96955 | 0.03045 | 21 | 12 | 26 |
| 11/16 | 9.56092 | 0.43908 | 9.59176 | 0.40824 | 9.96916 | 0.03084 | 21 | 20 | 13 |
| 23/32 | 9.56342 | 0.43658 | 9.59465 | 0.40535 | 9.96878 | 0.03122 | 21 | 27 | 58 |
| 3/4 | 9.56591 | 0.43409 | 9.59751 | 0.40249 | 9.96839 | 0.03161 | 21 | 35 | 43 |
| 25/32 | 9.56836 | 0.43164 | 9.60036 | 0.39964 | 9.96800 | 0.03200 | 21 | 43 | 27 |
| 13/16 | 9.57080 | 0.42920 | 9.60319 | 0.39681 | 9.96761 | 0.03239 | 21 | 51 | 10 |
| 27/32 | 9.57322 | 0.42678 | 9.60600 | 0.39400 | 9.96722 | 0.03278 | 21 | 58 | 52 |
| 7/8 | 9.57562 | 0.42438 | 9.60879 | 0.39121 | 9.96683 | 0.03317 | 22 | 06 | 34 |
| 29/32 | 9.57800 | 0.42200 | 9.61157 | 0.38843 | 9.96643 | 0.03357 | 22 | 14 | 15 |
| 15/16 | 9.58036 | 0.41964 | 9.61433 | 0.38567 | 9.96604 | 0.03396 | 22 | 21 | 54 |
| 31/32 | 9.58270 | 0.41730 | 9.61707 | 0.38293 | 9.96564 | 0.03436 | 22 | 29 | 33 |
| 1 | 9.58503 | 0.41497 | 9.61979 | 0.38021 | 9.96524 | 0.03476 | 22 | 37 | 12 |

| Fraction of an Inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.38462 | 2.60000 | 0.41667 | 2.40000 | 0.92308 | 1.08333 | 22 | 37 | 12 |
| 1/64 | 0.38666 | 2.58625 | 0.41927 | 2.38509 | 0.92222 | 1.08434 | 22 | 44 | 49 |
| 1/16 | 0.38870 | 2.57268 | 0.42188 | 2.37037 | 0.92136 | 1.08535 | 22 | 52 | 25 |
| 3/64 | 0.39073 | 2.55928 | 0.42448 | 2.35583 | 0.92050 | 1.08636 | 23 | 00 | 01 |
| 1/8 | 0.39276 | 2.54607 | 0.42708 | 2.34146 | 0.91964 | 1.08738 | 23 | 07 | 35 |
| 5/64 | 0.39479 | 2.53302 | 0.42969 | 2.32727 | 0.91877 | 1.08841 | 23 | 15 | 09 |
| 3/16 | 0.39680 | 2.52015 | 0.43229 | 2.31325 | 0.91790 | 1.08944 | 23 | 22 | 42 |
| 7/64 | 0.39881 | 2.50744 | 0.43490 | 2.29940 | 0.91703 | 1.09047 | 23 | 30 | 14 |
| 1/4 | 0.40082 | 2.49489 | 0.43750 | 2.28571 | 0.91616 | 1.09152 | 23 | 37 | 46 |
| 9/64 | 0.40282 | 2.48251 | 0.44010 | 2.27219 | 0.91528 | 1.09256 | 23 | 45 | 16 |
| 5/16 | 0.40481 | 2.47028 | 0.44271 | 2.25882 | 0.91440 | 1.09361 | 23 | 52 | 46 |
| 11/64 | 0.40680 | 2.45821 | 0.44531 | 2.24561 | 0.91352 | 1.09467 | 24 | 00 | 14 |
| 3/8 | 0.40878 | 2.44629 | 0.44792 | 2.23256 | 0.91263 | 1.09573 | 24 | 07 | 42 |
| 13/64 | 0.41076 | 2.43451 | 0.45052 | 2.21965 | 0.91174 | 1.09680 | 24 | 15 | 09 |
| 7/16 | 0.41273 | 2.42289 | 0.45313 | 2.20690 | 0.91085 | 1.09787 | 24 | 22 | 35 |
| 15/64 | 0.41470 | 2.41141 | 0.45573 | 2.19429 | 0.90996 | 1.09895 | 24 | 30 | 00 |
| 1/2 | 0.41666 | 2.40007 | 0.45833 | 2.18182 | 0.90907 | 1.10003 | 24 | 37 | 25 |
| 17/64 | 0.41861 | 2.38887 | 0.46094 | 2.16949 | 0.90817 | 1.10112 | 24 | 44 | 48 |
| 9/16 | 0.42056 | 2.37781 | 0.46354 | 2.15730 | 0.90727 | 1.10221 | 24 | 52 | 11 |
| 19/64 | 0.42250 | 2.36688 | 0.46615 | 2.14525 | 0.90636 | 1.10331 | 24 | 59 | 33 |
| 5/8 | 0.42443 | 2.35608 | 0.46875 | 2.13333 | 0.90546 | 1.10441 | 25 | 06 | 53 |
| 21/64 | 0.42636 | 2.34541 | 0.47135 | 2.12155 | 0.90455 | 1.10552 | 25 | 14 | 13 |
| 11/16 | 0.42829 | 2.33487 | 0.47396 | 2.10989 | 0.90364 | 1.10663 | 25 | 21 | 32 |
| 23/64 | 0.43021 | 2.32446 | 0.47656 | 2.09836 | 0.90273 | 1.10775 | 25 | 28 | 51 |
| 3/4 | 0.43212 | 2.31417 | 0.47917 | 2.08696 | 0.90182 | 1.10887 | 25 | 36 | 08 |
| 25/64 | 0.43403 | 2.30400 | 0.48177 | 2.07568 | 0.90090 | 1.11000 | 25 | 43 | 24 |
| 13/16 | 0.43593 | 2.29395 | 0.48438 | 2.06452 | 0.89998 | 1.11113 | 25 | 50 | 40 |
| 27/64 | 0.43782 | 2.28402 | 0.48698 | 2.05348 | 0.89906 | 1.11227 | 25 | 57 | 54 |
| 7/8 | 0.43971 | 2.27421 | 0.48958 | 2.04255 | 0.89814 | 1.11341 | 26 | 05 | 08 |
| 29/64 | 0.44160 | 2.26451 | 0.49219 | 2.03175 | 0.89721 | 1.11456 | 26 | 12 | 21 |
| 15/16 | 0.44348 | 2.25492 | 0.49479 | 2.02105 | 0.89629 | 1.11571 | 26 | 19 | 33 |
| 31/64 | 0.44535 | 2.24544 | 0.49740 | 2.01047 | 0.89536 | 1.11687 | 26 | 26 | 44 |
| 1 | 0.44721 | 2.23607 | 0.50000 | 2.00000 | 0.89443 | 1.11803 | 26 | 33 | 54 |

| Fraction of an inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 9.58503 | 0.41497 | 9.61979 | 0.38021 | 9.96524 | 0.03476 | 22 | 37 | 12 |
| 1/32 | 9.58733 | 0.41267 | 9.62249 | 0.37751 | 9.96484 | 0.03516 | 22 | 44 | 49 |
| 1/16 | 9.58962 | 0.41038 | 9.62518 | 0.37482 | 9.96443 | 0.03557 | 22 | 52 | 25 |
| 3/32 | 9.59188 | 0.40812 | 9.62786 | 0.37214 | 9.96403 | 0.03597 | 23 | 00 | 01 |
| 1/8 | 9.59413 | 0.40587 | 9.63051 | 0.36949 | 9.96362 | 0.03638 | 23 | 07 | 35 |
| 5/32 | 9.59636 | 0.40364 | 9.63315 | 0.36685 | 9.96321 | 0.03679 | 23 | 15 | 09 |
| 3/16 | 9.59857 | 0.40143 | 9.63578 | 0.36422 | 9.96280 | 0.03720 | 23 | 22 | 42 |
| 7/32 | 9.60077 | 0.39923 | 9.63839 | 0.36161 | 9.96238 | 0.03762 | 23 | 30 | 14 |
| 1/4 | 9.60295 | 0.39705 | 9.64098 | 0.35902 | 9.96197 | 0.03803 | 23 | 37 | 46 |
| 9/32 | 9.60511 | 0.39489 | 9.64356 | 0.35644 | 9.96155 | 0.03845 | 23 | 45 | 16 |
| 5/16 | 9.60725 | 0.39275 | 9.64612 | 0.35388 | 9.96114 | 0.03886 | 23 | 52 | 46 |
| 11/32 | 9.60938 | 0.39062 | 9.64866 | 0.35134 | 9.96072 | 0.03928 | 24 | 00 | 14 |
| 3/8 | 9.61149 | 0.38851 | 9.65120 | 0.34880 | 9.96030 | 0.03970 | 24 | 07 | 42 |
| 13/32 | 9.61359 | 0.38641 | 9.65371 | 0.34629 | 9.95987 | 0.04013 | 24 | 15 | 09 |
| 7/16 | 9.61567 | 0.38433 | 9.65622 | 0.34378 | 9.95945 | 0.04055 | 24 | 22 | 35 |
| 15/32 | 9.61773 | 0.38227 | 9.65871 | 0.34129 | 9.95902 | 0.04098 | 24 | 30 | 00 |
| 1/2 | 9.61978 | 0.38022 | 9.66118 | 0.33882 | 9.95859 | 0.04141 | 24 | 37 | 25 |
| 17/32 | 9.62181 | 0.37819 | 9.66364 | 0.33636 | 9.95817 | 0.04183 | 24 | 44 | 48 |
| 9/16 | 9.62382 | 0.37618 | 9.66609 | 0.33391 | 9.95773 | 0.04227 | 24 | 52 | 11 |
| 19/32 | 9.62582 | 0.37418 | 9.66852 | 0.33148 | 9.95730 | 0.04270 | 24 | 59 | 33 |
| 5/8 | 9.62781 | 0.37219 | 9.67094 | 0.32906 | 9.95687 | 0.04313 | 25 | 06 | 53 |
| 21/32 | 9.62978 | 0.37022 | 9.67335 | 0.32665 | 9.95643 | 0.04357 | 25 | 14 | 13 |
| 11/16 | 9.63174 | 0.36826 | 9.67574 | 0.32426 | 9.95600 | 0.04400 | 25 | 21 | 32 |
| 23/32 | 9.63368 | 0.36632 | 9.67812 | 0.32188 | 9.95556 | 0.04444 | 25 | 28 | 51 |
| 3/4 | 9.63560 | 0.36440 | 9.68049 | 0.31951 | 9.95512 | 0.04488 | 25 | 36 | 08 |
| 25/32 | 9.63752 | 0.36248 | 9.68284 | 0.31716 | 9.95468 | 0.04532 | 25 | 43 | 24 |
| 13/16 | 9.63942 | 0.36058 | 9.68518 | 0.31482 | 9.95423 | 0.04577 | 25 | 50 | 40 |
| 27/32 | 9.64130 | 0.35870 | 9.68751 | 0.31249 | 9.95379 | 0.04621 | 25 | 57 | 54 |
| 7/8 | 9.64317 | 0.35683 | 9.68983 | 0.31017 | 9.95334 | 0.04666 | 26 | 05 | 08 |
| 29/32 | 9.64503 | 0.35497 | 9.69213 | 0.30787 | 9.95290 | 0.04710 | 26 | 12 | 21 |
| 15/16 | 9.64687 | 0.35313 | 9.69442 | 0.30558 | 9.95245 | 0.04755 | 26 | 19 | 33 |
| 31/32 | 9.64870 | 0.35130 | 9.69670 | 0.30330 | 9.95200 | 0.04800 | 26 | 26 | 44 |
| 1 | 9.65051 | 0.34949 | 9.69897 | 0.30103 | 9.95154 | 0.04846 | 26 | 33 | 54 |

| Fraction of an Inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.44721 | 2.23607 | 0.50000 | 2.00000 | 0.89443 | 1.11803 | 26 | 33 | 54 |
| 1/32 | 0.44907 | 2.22680 | 0.50260 | 1.98964 | 0.89349 | 1.11920 | 26 | 41 | 03 |
| 1/16 | 0.45093 | 2.21765 | 0.50521 | 1.97938 | 0.89256 | 1.12037 | 26 | 48 | 12 |
| 3/32 | 0.45278 | 2.20859 | 0.50781 | 1.96923 | 0.89162 | 1.12155 | 26 | 55 | 19 |
| 1/8 | 0.45462 | 2.19964 | 0.51042 | 1.95918 | 0.89069 | 1.12273 | 27 | 02 | 26 |
| 5/32 | 0.45646 | 2.19078 | 0.51302 | 1.94924 | 0.88975 | 1.12392 | 27 | 09 | 32 |
| 3/16 | 0.45829 | 2.18203 | 0.51563 | 1.93939 | 0.88880 | 1.12511 | 27 | 16 | 36 |
| 7/32 | 0.46011 | 2.17337 | 0.51823 | 1.92965 | 0.88786 | 1.12630 | 27 | 23 | 40 |
| 1/4 | 0.46193 | 2.16481 | 0.52083 | 1.92000 | 0.88691 | 1.12751 | 27 | 30 | 43 |
| 9/32 | 0.46375 | 2.15634 | 0.52344 | 1.91045 | 0.88597 | 1.12871 | 27 | 37 | 45 |
| 5/16 | 0.46556 | 2.14797 | 0.52604 | 1.90099 | 0.88502 | 1.12992 | 27 | 44 | 46 |
| 11/32 | 0.46736 | 2.13968 | 0.52865 | 1.89163 | 0.88407 | 1.13114 | 27 | 51 | 47 |
| 3/8 | 0.46916 | 2.13149 | 0.53125 | 1.88235 | 0.88312 | 1.13235 | 27 | 58 | 46 |
| 13/32 | 0.47095 | 2.12339 | 0.53385 | 1.87317 | 0.88216 | 1.13358 | 28 | 05 | 45 |
| 7/16 | 0.47273 | 2.11537 | 0.53646 | 1.86408 | 0.88121 | 1.13481 | 28 | 12 | 42 |
| 15/32 | 0.47451 | 2.10744 | 0.53906 | 1.85507 | 0.88025 | 1.13604 | 28 | 19 | 39 |
| 1/2 | 0.47628 | 2.09959 | 0.54167 | 1.84615 | 0.87929 | 1.13728 | 28 | 26 | 35 |
| 17/32 | 0.47805 | 2.09183 | 0.54427 | 1.83732 | 0.87833 | 1.13852 | 28 | 33 | 29 |
| 9/16 | 0.47981 | 2.08415 | 0.54688 | 1.82857 | 0.87737 | 1.13977 | 28 | 40 | 23 |
| 19/32 | 0.48157 | 2.07655 | 0.54948 | 1.81991 | 0.87641 | 1.14102 | 28 | 47 | 16 |
| 5/8 | 0.48332 | 2.06903 | 0.55208 | 1.81132 | 0.87545 | 1.14228 | 28 | 54 | 09 |
| 21/32 | 0.48506 | 2.06159 | 0.55469 | 1.80282 | 0.87448 | 1.14354 | 29 | 01 | 00 |
| 11/16 | 0.48680 | 2.05423 | 0.55729 | 1.79439 | 0.87351 | 1.14480 | 29 | 07 | 50 |
| 23/32 | 0.48853 | 2.04694 | 0.55990 | 1.78605 | 0.87254 | 1.14607 | 29 | 14 | 39 |
| 3/4 | 0.49026 | 2.03973 | 0.56250 | 1.77778 | 0.87158 | 1.14735 | 29 | 21 | 28 |
| 25/32 | 0.49198 | 2.03259 | 0.56510 | 1.76959 | 0.87061 | 1.14863 | 29 | 28 | 16 |
| 13/16 | 0.49370 | 2.02553 | 0.56771 | 1.76147 | 0.86963 | 1.14991 | 29 | 35 | 02 |
| 27/32 | 0.49541 | 2.01854 | 0.57031 | 1.75342 | 0.86866 | 1.15120 | 29 | 41 | 48 |
| 7/8 | 0.49711 | 2.01162 | 0.57292 | 1.74545 | 0.86769 | 1.15249 | 29 | 48 | 33 |
| 29/32 | 0.49881 | 2.00477 | 0.57552 | 1.73756 | 0.86671 | 1.15379 | 29 | 55 | 17 |
| 15/16 | 0.50050 | 1.99799 | 0.57813 | 1.72973 | 0.86573 | 1.15509 | 30 | 02 | 00 |
| 31/32 | 0.50219 | 1.99128 | 0.58073 | 1.72197 | 0.86476 | 1.15639 | 30 | 08 | 42 |
| 1 | 0.50387 | 1.98463 | 0.58333 | 1.71429 | 0.86378 | 1.15770 | 30 | 15 | 23 |

| Fraction of an inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 9.65051 | 0.34949 | 9.69897 | 0.30103 | 9.95154 | 0.04846 | 26 | 33 | 54 |
| 1/32 | 9.65232 | 0.34768 | 9.70123 | 0.29877 | 9.95109 | 0.04891 | 26 | 41 | 03 |
| 1/16 | 9.65411 | 0.34589 | 9.70347 | 0.29653 | 9.95064 | 0.04936 | 26 | 48 | 12 |
| 3/32 | 9.65588 | 0.34412 | 9.70570 | 0.29430 | 9.95018 | 0.04982 | 26 | 55 | 19 |
| 1/8 | 9.65765 | 0.34235 | 9.70792 | 0.29208 | 9.94972 | 0.05028 | 27 | 02 | 26 |
| 5/32 | 9.65940 | 0.34060 | 9.71014 | 0.28986 | 9.94927 | 0.05073 | 27 | 09 | 32 |
| 3/16 | 9.66114 | 0.33886 | 9.71233 | 0.28767 | 9.94881 | 0.05119 | 27 | 16 | 36 |
| 7/32 | 9.66287 | 0.33713 | 9.71452 | 0.28548 | 9.94834 | 0.05166 | 27 | 23 | 40 |
| 1/4 | 9.66458 | 0.33542 | 9.71670 | 0.28330 | 9.94789 | 0.05212 | 27 | 30 | 43 |
| 9/32 | 9.66628 | 0.33372 | 9.71886 | 0.28114 | 9.94742 | 0.05258 | 27 | 37 | 45 |
| 5/16 | 9.66797 | 0.33203 | 9.72102 | 0.27898 | 9.94695 | 0.05305 | 27 | 44 | 46 |
| 11/32 | 9.66965 | 0.33035 | 9.72316 | 0.27684 | 9.94649 | 0.05351 | 27 | 51 | 47 |
| 3/8 | 9.67132 | 0.32868 | 9.72530 | 0.27470 | 9.94602 | 0.05398 | 27 | 58 | 46 |
| 13/32 | 9.67297 | 0.32703 | 9.72742 | 0.27258 | 9.94555 | 0.05445 | 28 | 05 | 45 |
| 7/16 | 9.67461 | 0.32539 | 9.72954 | 0.27046 | 9.94508 | 0.05492 | 28 | 12 | 42 |
| 15/32 | 9.67625 | 0.32375 | 9.73164 | 0.26836 | 9.94461 | 0.05539 | 28 | 19 | 39 |
| 1/2 | 9.67787 | 0.32213 | 9.73373 | 0.26627 | 9.94413 | 0.05587 | 28 | 26 | 35 |
| 17/32 | 9.67947 | 0.32053 | 9.73582 | 0.26418 | 9.94366 | 0.05634 | 28 | 33 | 29 |
| 9/16 | 9.68107 | 0.31893 | 9.73789 | 0.26211 | 9.94318 | 0.05682 | 28 | 40 | 23 |
| 19/32 | 9.68266 | 0.31734 | 9.73995 | 0.26005 | 9.94271 | 0.05729 | 28 | 47 | 16 |
| 5/8 | 9.68423 | 0.31577 | 9.74200 | 0.25800 | 9.94223 | 0.05777 | 28 | 54 | 09 |
| 21/32 | 9.68580 | 0.31420 | 9.74405 | 0.25595 | 9.94175 | 0.05825 | 29 | 01 | 00 |
| 11/16 | 9.68735 | 0.31265 | 9.74608 | 0.25392 | 9.94127 | 0.05873 | 29 | 07 | 50 |
| 23/32 | 9.68889 | 0.31110 | 9.74811 | 0.25189 | 9.94079 | 0.05921 | 29 | 14 | 39 |
| 3/4 | 9.69043 | 0.30957 | 9.75012 | 0.24988 | 9.94031 | 0.05969 | 29 | 21 | 28 |
| 25/32 | 9.69195 | 0.30805 | 9.75213 | 0.24787 | 9.93982 | 0.06018 | 29 | 28 | 16 |
| 13/16 | 9.69346 | 0.30654 | 9.75413 | 0.24587 | 9.93934 | 0.06066 | 29 | 35 | 02 |
| 27/32 | 9.69496 | 0.30504 | 9.75611 | 0.24389 | 9.93885 | 0.06115 | 29 | 41 | 48 |
| 7/8 | 9.69645 | 0.30355 | 9.75809 | 0.24191 | 9.93836 | 0.06164 | 29 | 48 | 33 |
| 29/32 | 9.69794 | 0.30206 | 9.76006 | 0.23994 | 9.93787 | 0.06213 | 29 | 55 | 17 |
| 15/16 | 9.69941 | 0.30059 | 9.76202 | 0.23798 | 9.93738 | 0.06262 | 30 | 02 | 00 |
| 31/32 | 9.70087 | 0.29913 | 9.76397 | 0.23603 | 9.93689 | 0.06311 | 30 | 08 | 42 |
| 1 | 9.70232 | 0.29768 | 9.76592 | 0.23408 | 9.93640 | 0.06360 | 30 | 15 | 23 |

| Fraction of an Inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.50387 | 1.98463 | 0.58333 | 1.71429 | 0.86378 | 1.15770 | 30 | 15 | 23 |
| 1/32 | 0.50555 | 1.97806 | 0.58594 | 1.70667 | 0.86280 | 1.15902 | 30 | 22 | 04 |
| 1/16 | 0.50722 | 1.97155 | 0.58854 | 1.69910 | 0.86182 | 1.16034 | 30 | 28 | 43 |
| 3/32 | 0.50888 | 1.96510 | 0.59115 | 1.69163 | 0.86084 | 1.16166 | 30 | 35 | 21 |
| 1/8 | 0.51054 | 1.95871 | 0.59375 | 1.68421 | 0.85986 | 1.16299 | 30 | 41 | 59 |
| 5/32 | 0.51219 | 1.95239 | 0.59635 | 1.67686 | 0.85887 | 1.16432 | 30 | 48 | 36 |
| 3/16 | 0.51384 | 1.94614 | 0.59896 | 1.66957 | 0.85789 | 1.16566 | 30 | 55 | 11 |
| 7/32 | 0.51548 | 1.93994 | 0.60156 | 1.66234 | 0.85690 | 1.16700 | 31 | 01 | 46 |
| 1/4 | 0.51712 | 1.93380 | 0.60417 | 1.65517 | 0.85592 | 1.16834 | 31 | 08 | 20 |
| 9/32 | 0.51875 | 1.92773 | 0.60677 | 1.64807 | 0.85493 | 1.16969 | 31 | 14 | 53 |
| 5/16 | 0.52037 | 1.92171 | 0.60938 | 1.64103 | 0.85394 | 1.17104 | 31 | 21 | 26 |
| 11/32 | 0.52199 | 1.91575 | 0.61198 | 1.63404 | 0.85295 | 1.17240 | 31 | 27 | 57 |
| 3/8 | 0.52360 | 1.90985 | 0.61458 | 1.62712 | 0.85196 | 1.17376 | 31 | 34 | 27 |
| 13/32 | 0.52521 | 1.90400 | 0.61719 | 1.62025 | 0.85097 | 1.17513 | 31 | 40 | 57 |
| 7/16 | 0.52681 | 1.89821 | 0.61979 | 1.61345 | 0.84998 | 1.17650 | 31 | 47 | 25 |
| 15/32 | 0.52841 | 1.89248 | 0.62240 | 1.60669 | 0.84899 | 1.17787 | 31 | 53 | 53 |
| 1/2 | 0.53000 | 1.88680 | 0.62500 | 1.60000 | 0.84800 | 1.17925 | 32 | 00 | 19 |
| 17/32 | 0.53158 | 1.88117 | 0.62760 | 1.59336 | 0.84701 | 1.18063 | 32 | 06 | 45 |
| 9/16 | 0.53316 | 1.87560 | 0.63021 | 1.58678 | 0.84601 | 1.18202 | 32 | 13 | 10 |
| 19/32 | 0.53474 | 1.87008 | 0.63281 | 1.58025 | 0.84502 | 1.18341 | 32 | 19 | 34 |
| 5/8 | 0.53631 | 1.86461 | 0.63542 | 1.57377 | 0.84402 | 1.18480 | 32 | 25 | 57 |
| 21/32 | 0.53787 | 1.85919 | 0.63802 | 1.56735 | 0.84303 | 1.18620 | 32 | 32 | 19 |
| 11/16 | 0.53943 | 1.85382 | 0.64063 | 1.56098 | 0.84203 | 1.18760 | 32 | 38 | 41 |
| 23/32 | 0.54098 | 1.84850 | 0.64323 | 1.55466 | 0.84104 | 1.18901 | 32 | 45 | 01 |
| 3/4 | 0.54253 | 1.84323 | 0.64583 | 1.54839 | 0.84004 | 1.19042 | 32 | 51 | 21 |
| 25/32 | 0.54407 | 1.83801 | 0.64844 | 1.54217 | 0.83904 | 1.19184 | 32 | 57 | 39 |
| 13/16 | 0.54560 | 1.83284 | 0.65104 | 1.53600 | 0.83804 | 1.19325 | 33 | 03 | 57 |
| 27/32 | 0.54713 | 1.82771 | 0.65365 | 1.52988 | 0.83705 | 1.19468 | 33 | 10 | 14 |
| 7/8 | 0.54866 | 1.82263 | 0.65625 | 1.52381 | 0.83605 | 1.19610 | 33 | 16 | 30 |
| 29/32 | 0.55018 | 1.81760 | 0.65885 | 1.51779 | 0.83505 | 1.19753 | 33 | 22 | 45 |
| 15/16 | 0.55169 | 1.81261 | 0.66146 | 1.51181 | 0.83405 | 1.19897 | 33 | 28 | 59 |
| 31/32 | 0.55320 | 1.80767 | 0.66406 | 1.50588 | 0.83305 | 1.20041 | 33 | 35 | 12 |
| 1 | 0.55470 | 1.80278 | 0.66667 | 1.50000 | 0.83205 | 1.20185 | 33 | 41 | 24 |

| Fraction of an Inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 9.70232 | 0.29768 | 9.76592 | 0.23408 | 9.93640 | 0.06360 | 30 | 15 | 23 |
| 1/32 | 9.70376 | 0.29624 | 9.76785 | 0.23215 | 9.93591 | 0.06409 | 30 | 22 | 04 |
| 1/16 | 9.70519 | 0.29481 | 9.76978 | 0.23022 | 9.93542 | 0.06458 | 30 | 28 | 43 |
| 3/32 | 9.70662 | 0.29338 | 9.77169 | 0.22831 | 9.93492 | 0.06508 | 30 | 35 | 21 |
| 1/8 | 9.70803 | 0.29197 | 9.77360 | 0.22640 | 9.93443 | 0.06557 | 30 | 41 | 59 |
| 5/32 | 9.70943 | 0.29057 | 9.77550 | 0.22450 | 9.93393 | 0.06607 | 30 | 48 | 36 |
| 3/16 | 9.71083 | 0.28917 | 9.77740 | 0.22260 | 9.93343 | 0.06657 | 30 | 55 | 11 |
| 7/32 | 9.71221 | 0.28779 | 9.77928 | 0.22072 | 9.93293 | 0.06707 | 31 | 01 | 46 |
| 1/4 | 9.71359 | 0.28641 | 9.78116 | 0.21884 | 9.93243 | 0.06757 | 31 | 08 | 20 |
| 9/32 | 9.71495 | 0.28505 | 9.78302 | 0.21698 | 9.93193 | 0.06807 | 31 | 14 | 53 |
| 5/16 | 9.71631 | 0.28369 | 9.78488 | 0.21512 | 9.93143 | 0.06857 | 31 | 21 | 26 |
| 11/32 | 9.71766 | 0.28234 | 9.78674 | 0.21326 | 9.93092 | 0.06908 | 31 | 27 | 57 |
| 3/8 | 9.71900 | 0.28100 | 9.78858 | 0.21142 | 9.93042 | 0.06958 | 31 | 34 | 27 |
| 13/32 | 9.72033 | 0.27967 | 9.79042 | 0.20958 | 9.92992 | 0.07008 | 31 | 40 | 57 |
| 7/16 | 9.72166 | 0.27834 | 9.79225 | 0.20775 | 9.92941 | 0.07059 | 31 | 47 | 25 |
| 15/32 | 9.72297 | 0.27703 | 9.79407 | 0.20593 | 9.92890 | 0.07110 | 31 | 53 | 53 |
| 1/2 | 9.72427 | 0.27573 | 9.79588 | 0.20412 | 9.92839 | 0.07161 | 32 | 00 | 19 |
| 17/32 | 9.72557 | 0.27443 | 9.79769 | 0.20231 | 9.92789 | 0.07211 | 32 | 06 | 45 |
| 9/16 | 9.72686 | 0.27314 | 9.79948 | 0.20052 | 9.92738 | 0.07262 | 32 | 13 | 10 |
| 19/32 | 9.72814 | 0.27186 | 9.80128 | 0.19872 | 9.92687 | 0.07313 | 32 | 19 | 34 |
| 5/8 | 9.72941 | 0.27059 | 9.80306 | 0.19694 | 9.92635 | 0.07365 | 32 | 25 | 57 |
| 21/32 | 9.73068 | 0.26932 | 9.80483 | 0.19517 | 9.92584 | 0.07416 | 32 | 32 | 19 |
| 11/16 | 9.73193 | 0.26807 | 9.80660 | 0.19340 | 9.92533 | 0.07467 | 32 | 38 | 41 |
| 23/32 | 9.73318 | 0.26682 | 9.80837 | 0.19163 | 9.92481 | 0.07519 | 32 | 45 | 01 |
| 3/4 | 9.73442 | 0.26558 | 9.81012 | 0.18988 | 9.92430 | 0.07570 | 32 | 51 | 21 |
| 25/32 | 9.73565 | 0.26435 | 9.81187 | 0.18813 | 9.92378 | 0.07622 | 32 | 57 | 39 |
| 13/16 | 9.73688 | 0.26312 | 9.81361 | 0.18639 | 9.92327 | 0.07673 | 33 | 03 | 57 |
| 27/32 | 9.73809 | 0.26191 | 9.81534 | 0.18466 | 9.92275 | 0.07725 | 33 | 10 | 14 |
| 7/8 | 9.73930 | 0.26070 | 9.81707 | 0.18293 | 9.92223 | 0.07777 | 33 | 16 | 30 |
| 29/32 | 9.74050 | 0.25950 | 9.81879 | 0.18121 | 9.92171 | 0.07829 | 33 | 22 | 45 |
| 15/16 | 9.74169 | 0.25831 | 9.82050 | 0.17950 | 9.92119 | 0.07881 | 33 | 28 | 59 |
| 31/32 | 9.74288 | 0.25712 | 9.82221 | 0.17779 | 9.92067 | 0.07933 | 33 | 35 | 12 |
| 1 | 9.74406 | 0.25594 | 9.82391 | 0.17609 | 9.92015 | 0.07985 | 33 | 41 | 24 |

| Fraction of an Inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.55470 | 1.80278 | 0.66667 | 1.50000 | 0.83205 | 1.20185 | 33 | 41 | 24 |
| 1/32 | 0.55620 | 1.79792 | 0.66927 | 1.49416 | 0.83105 | 1.20330 | 33 | 47 | 36 |
| 1/16 | 0.55769 | 1.79311 | 0.67188 | 1.48837 | 0.83005 | 1.20475 | 33 | 53 | 46 |
| 3/32 | 0.55918 | 1.78835 | 0.67448 | 1.48263 | 0.82905 | 1.20620 | 33 | 59 | 56 |
| 1/8 | 0.56066 | 1.78362 | 0.67708 | 1.47692 | 0.82805 | 1.20766 | 34 | 06 | 05 |
| 5/32 | 0.56213 | 1.77894 | 0.67969 | 1.47126 | 0.82705 | 1.20912 | 34 | 12 | 12 |
| 3/16 | 0.56360 | 1.77430 | 0.68229 | 1.46565 | 0.82605 | 1.21059 | 34 | 18 | 19 |
| 7/32 | 0.56507 | 1.76970 | 0.68490 | 1.46008 | 0.82504 | 1.21206 | 34 | 24 | 25 |
| 1/4 | 0.56653 | 1.76514 | 0.68750 | 1.45455 | 0.82404 | 1.21353 | 34 | 30 | 31 |
| 9/32 | 0.56798 | 1.76061 | 0.69010 | 1.44906 | 0.82304 | 1.21501 | 34 | 36 | 35 |
| 5/16 | 0.56943 | 1.75613 | 0.69271 | 1.44361 | 0.82204 | 1.21649 | 34 | 42 | 38 |
| 11/32 | 0.57088 | 1.75169 | 0.69531 | 1.43820 | 0.82104 | 1.21797 | 34 | 48 | 41 |
| 3/8 | 0.57231 | 1.74729 | 0.69792 | 1.43284 | 0.82003 | 1.21946 | 34 | 54 | 43 |
| 13/32 | 0.57375 | 1.74292 | 0.70052 | 1.42751 | 0.81903 | 1.22095 | 35 | 00 | 43 |
| 7/16 | 0.57518 | 1.73860 | 0.70313 | 1.42222 | 0.81803 | 1.22245 | 35 | 06 | 43 |
| 15/32 | 0.57660 | 1.73431 | 0.70573 | 1.41697 | 0.81703 | 1.22395 | 35 | 12 | 42 |
| 1/2 | 0.57802 | 1.73005 | 0.70833 | 1.41176 | 0.81602 | 1.22545 | 35 | 18 | 40 |
| 17/32 | 0.57943 | 1.72583 | 0.71094 | 1.40659 | 0.81502 | 1.22696 | 35 | 24 | 38 |
| 9/16 | 0.58084 | 1.72165 | 0.71354 | 1.40146 | 0.81402 | 1.22847 | 35 | 30 | 34 |
| 19/32 | 0.58224 | 1.71751 | 0.71615 | 1.39636 | 0.81302 | 1.22999 | 35 | 36 | 30 |
| 5/8 | 0.58364 | 1.71340 | 0.71875 | 1.39130 | 0.81202 | 1.23150 | 35 | 42 | 24 |
| 21/32 | 0.58503 | 1.70932 | 0.72135 | 1.38628 | 0.81101 | 1.23303 | 35 | 48 | 18 |
| 11/16 | 0.58641 | 1.70528 | 0.72396 | 1.38130 | 0.81001 | 1.23455 | 35 | 54 | 11 |
| 23/32 | 0.58780 | 1.70127 | 0.72656 | 1.37634 | 0.80901 | 1.23608 | 36 | 00 | 03 |
| 3/4 | 0.58917 | 1.69730 | 0.72917 | 1.37143 | 0.80801 | 1.23761 | 36 | 05 | 54 |
| 25/32 | 0.59054 | 1.69336 | 0.73177 | 1.36655 | 0.80701 | 1.23915 | 36 | 11 | 44 |
| 13/16 | 0.59191 | 1.68945 | 0.73438 | 1.36170 | 0.80600 | 1.24069 | 36 | 17 | 33 |
| 27/32 | 0.59327 | 1.68557 | 0.73698 | 1.35689 | 0.80500 | 1.24223 | 36 | 23 | 22 |
| 7/8 | 0.59463 | 1.68173 | 0.73958 | 1.35211 | 0.80400 | 1.24378 | 36 | 29 | 10 |
| 29/32 | 0.59598 | 1.67791 | 0.74219 | 1.34737 | 0.80300 | 1.24533 | 36 | 34 | 56 |
| 15/16 | 0.59732 | 1.67414 | 0.74479 | 1.34266 | 0.80200 | 1.24688 | 36 | 40 | 42 |
| 31/32 | 0.59866 | 1.67039 | 0.74740 | 1.33798 | 0.80100 | 1.24844 | 36 | 46 | 27 |
| 1 | 0.60000 | 1.66667 | 0.75000 | 1.33333 | 0.80000 | 1.25000 | 36 | 52 | 12 |

| Fraction of an inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 9.74406 | 0.25594 | 9.82391 | 0.17609 | 9.92015 | 0.07985 | 33 | 41 | 24 |
| 1/32 | 9.74523 | 0.25477 | 9.82560 | 0.17440 | 9.91963 | 0.08037 | 33 | 47 | 36 |
| 1/16 | 9.74639 | 0.25361 | 9.82729 | 0.17271 | 9.91910 | 0.08090 | 33 | 53 | 46 |
| 3/32 | 9.74755 | 0.25245 | 9.82897 | 0.17103 | 9.91858 | 0.08142 | 33 | 59 | 56 |
| 1/8 | 9.74870 | 0.25130 | 9.83064 | 0.16936 | 9.91806 | 0.08194 | 34 | 06 | 05 |
| 5/32 | 9.74984 | 0.25016 | 9.83231 | 0.16769 | 9.91753 | 0.08247 | 34 | 12 | 12 |
| 3/16 | 9.75097 | 0.24903 | 9.83397 | 0.16603 | 9.91700 | 0.08300 | 34 | 18 | 19 |
| 7/32 | 9.75210 | 0.24790 | 9.83562 | 0.16438 | 9.91648 | 0.08352 | 34 | 24 | 25 |
| 1/4 | 9.75322 | 0.24678 | 9.83727 | 0.16273 | 9.91595 | 0.08405 | 34 | 30 | 31 |
| 9/32 | 9.75434 | 0.24566 | 9.83891 | 0.16109 | 9.91542 | 0.08458 | 34 | 36 | 35 |
| 5/16 | 9.75544 | 0.24456 | 9.84055 | 0.15945 | 9.91489 | 0.08511 | 34 | 42 | 38 |
| 11/32 | 9.75654 | 0.24346 | 9.84218 | 0.15782 | 9.91436 | 0.08564 | 34 | 48 | 41 |
| 3/8 | 9.75764 | 0.24236 | 9.84380 | 0.15620 | 9.91383 | 0.08617 | 34 | 54 | 43 |
| 13/32 | 9.75872 | 0.24128 | 9.84542 | 0.15458 | 9.91330 | 0.08670 | 35 | 00 | 43 |
| 7/16 | 9.75980 | 0.24020 | 9.84703 | 0.15297 | 9.91277 | 0.08723 | 35 | 06 | 43 |
| 15/32 | 9 76087 | 0.23913 | 9.84864 | 0.15136 | 9.91224 | 0.08776 | 35 | 12 | 42 |
| 1/2 | 9.76194 | 0.23806 | 9.85024 | 0.14976 | 9.91170 | 0.08830 | 35 | 18 | 40 |
| 17/32 | 9.76300 | 0.23700 | 9.85183 | 0.14817 | 9.91117 | 0.08883 | 35 | 24 | 38 |
| 9/16 | 9.76405 | 0.23595 | 9.85342 | 0.14658 | 9.91063 | 0.08937 | 35 | 30 | 34 |
| 19/32 | 9.76510 | 0.23490 | 9.85500 | 0.14500 | 9.91010 | 0.08990 | 35 | 36 | 30 |
| 5/8 | 9.76614 | 0.23386 | 9.85658 | 0.14342 | 9.90956 | 0.09044 | 35 | 42 | 24 |
| 21/32 | 9.76718 | 0.23282 | 9.85815 | 0.14185 | 9.90903 | 0.09097 | 35 | 48 | 18 |
| 11/16 | 9.76820 | 0.23180 | 9.85971 | 0.14029 | 9.90849 | 0.09151 | 35 | 54 | 11 |
| 23/32 | 9.76923 | 0.23077 | 9.86127 | 0.13873 | 9.90795 | 0.09205 | 36 | 00 | 03 |
| 3/4 | 9.77024 | 0.22976 | 9.86283 | 0.13717 | 9.90742 | 0.09258 | 36 | 05 | 54 |
| 25/32 | 9.77125 | 0.22875 | 9.86438 | 0.13562 | 9.90688 | 0.09312 | 36 | 11 | 44 |
| 13/16 | 9.77226 | 0.22774 | 9.86592 | 0.13408 | 9.90634 | 0.09366 | 36 | 17 | 33 |
| 27/32 | 9.77325 | 0.22675 | 9.86746 | 0.13254 | 9.90580 | 0.09420 | 36 | 23 | 22 |
| 7/8 | 9.77424 | 0.22576 | 9.86899 | 0.13101 | 9.90526 | 0.09474 | 36 | 29 | 10 |
| 29/32 | 9.77523 | 0.22477 | 9.87051 | 0.12949 | 9.90472 | 0.09528 | 36 | 34 | 56 |
| 15/16 | 9.77621 | 0.22379 | 9.87203 | 0.12797 | 9.90417 | 0.09583 | 36 | 40 | 42 |
| 31/32 | 9.77718 | 0.22282 | 9.87355 | 0.12645 | 9.90363 | 0.09637 | 36 | 46 | 27 |
| 1 | 9.77815 | 0.22185 | 9.87506 | 0.12494 | 9.90309 | 0.09691 | 36 | 52 | 12 |

| Fraction of an inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.60000 | 1.66667 | 0.75000 | 1.33333 | 0.80000 | 1.25000 | 36 | 52 | 12 |
| 1/32 | 0.60133 | 1.66298 | 0.75260 | 1.32872 | 0.79900 | 1.25156 | 36 | 57 | 55 |
| 1/16 | 0.60266 | 1.65932 | 0.75521 | 1.32414 | 0.79800 | 1.25313 | 37 | 03 | 37 |
| 3/32 | 0.60398 | 1.65569 | 0.75781 | 1.31959 | 0.79700 | 1.25470 | 37 | 09 | 19 |
| 1/8 | 0.60529 | 1.65209 | 0.76042 | 1.31507 | 0.79600 | 1.25628 | 37 | 15 | 00 |
| 5/32 | 0.60660 | 1.64852 | 0.76302 | 1.31058 | 0.79500 | 1.25786 | 37 | 20 | 40 |
| 3/16 | 0.60791 | 1.64498 | 0.76563 | 1.30612 | 0.79401 | 1.25944 | 37 | 26 | 19 |
| 7/32 | 0.60921 | 1.64147 | 0.76823 | 1.30170 | 0.79301 | 1.26102 | 37 | 31 | 57 |
| 1/4 | 0.61051 | 1.63798 | 0.77083 | 1.29730 | 0.79201 | 1.26261 | 37 | 37 | 34 |
| 9/32 | 0.61180 | 1.63452 | 0.77344 | 1.29293 | 0.79101 | 1.26420 | 37 | 43 | 11 |
| 5/16 | 0.61309 | 1.63109 | 0.77604 | 1.28859 | 0.79002 | 1.26580 | 37 | 48 | 47 |
| 11/32 | 0.61437 | 1.62769 | 0.77865 | 1.28428 | 0.78902 | 1.26740 | 37 | 54 | 21 |
| 3/8 | 0.61564 | 1.62431 | 0.78125 | 1.28000 | 0.78802 | 1.26900 | 37 | 59 | 56 |
| 13/32 | 0.61692 | 1.62097 | 0.78385 | 1.27575 | 0.78703 | 1.27060 | 38 | 05 | 29 |
| 7/16 | 0.61818 | 1.61764 | 0.78646 | 1.27152 | 0.78603 | 1.27221 | 38 | 11 | 01 |
| 15/32 | 0.61945 | 1.61435 | 0.78906 | 1.26733 | 0.78504 | 1.27382 | 38 | 16 | 32 |
| 1/2 | 0.62070 | 1.61108 | 0.79167 | 1.26316 | 0.78405 | 1.27544 | 38 | 22 | 03 |
| 17/32 | 0.62196 | 1.60783 | 0.79427 | 1.25902 | 0.78305 | 1.27705 | 38 | 27 | 33 |
| 9/16 | 0.62320 | 1.60461 | 0.79688 | 1.25490 | 0.78206 | 1.27868 | 38 | 33 | 02 |
| 19/32 | 0.62445 | 1.60142 | 0.79948 | 1.25081 | 0.78107 | 1.28030 | 38 | 38 | 30 |
| 5/8 | 0.62569 | 1.59825 | 0.80208 | 1.24675 | 0.78008 | 1.28193 | 38 | 43 | 57 |
| 21/32 | 0.62692 | 1.59510 | 0.80469 | 1.24272 | 0.77908 | 1.28356 | 38 | 49 | 24 |
| 11/16 | 0.62815 | 1.59198 | 0.80729 | 1.23871 | 0.77809 | 1.28519 | 38 | 54 | 49 |
| 23/32 | 0.62937 | 1.58888 | 0.80990 | 1.23473 | 0.77710 | 1.28683 | 39 | 00 | 14 |
| 3/4 | 0.63059 | 1.58581 | 0.81250 | 1.23077 | 0.77611 | 1.28847 | 39 | 05 | 38 |
| 25/32 | 0.63181 | 1.58276 | 0.81510 | 1.22684 | 0.77512 | 1.29011 | 39 | 11 | 01 |
| 13/16 | 0.63302 | 1.57973 | 0.81771 | 1.22293 | 0.77414 | 1.29176 | 39 | 16 | 23 |
| 27/32 | 0.63422 | 1.57673 | 0.82031 | 1.21905 | 0.77315 | 1.29341 | 39 | 21 | 45 |
| 7/8 | 0.63542 | 1.57375 | 0.82292 | 1.21519 | 0.77216 | 1.29506 | 39 | 27 | 06 |
| 29/32 | 0.63662 | 1.57079 | 0.82552 | 1.21136 | 0.77118 | 1.29672 | 39 | 32 | 25 |
| 15/16 | 0.63781 | 1.56785 | 0.82813 | 1.20755 | 0.77019 | 1.29838 | 39 | 37 | 44 |
| 31/32 | 0.63900 | 1.56494 | 0.83073 | 1.20376 | 0.76921 | 1.30004 | 39 | 43 | 03 |
| 1 | 0.64018 | 1.56205 | 0.83333 | 1.20000 | 0.76822 | 1.30171 | 39 | 48 | 20 |

| Fraction of an Inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec | Deg. | Min. | Sec. |
| 0 | 9.77815 | 0.22185 | 9.87506 | 0.12494 | 9.90309 | 0.09691 | 36 | 52 | 12 |
| 1/32 | 9.77911 | 0.22089 | 9.87657 | 0.12343 | 9.90255 | 0.09745 | 36 | 57 | 55 |
| 1/16 | 9.78007 | 0.21993 | 9.87807 | 0.12193 | 9.90200 | 0.09800 | 37 | 03 | 37 |
| 3/32 | 9.78102 | 0.21898 | 9.87956 | 0.12044 | 9.90146 | 0.09854 | 37 | 09 | 19 |
| 1/8 | 9.78197 | 0.21803 | 9.88105 | 0.11895 | 9.90091 | 0.09909 | 37 | 15 | 00 |
| 5/32 | 9.78291 | 0.21709 | 9.88254 | 0.11746 | 9.90037 | 0.09963 | 37 | 20 | 40 |
| 3/16 | 9.78384 | 0.21616 | 9.88402 | 0.11598 | 9.89982 | 0.10018 | 37 | 26 | 19 |
| 7/32 | 9.78477 | 0.21523 | 9.88549 | 0.11451 | 9.89928 | 0.10072 | 37 | 31 | 57 |
| 1/4 | 9.78569 | 0.21431 | 9.88696 | 0.11304 | 9.89873 | 0.10127 | 37 | 37 | 34 |
| 9/32 | 9.78661 | 0.21339 | 9.88843 | 0.11157 | 9.89818 | 0.10182 | 37 | 43 | 11 |
| 5/16 | 9.78752 | 0.21248 | 9.88989 | 0.11011 | 9.89764 | 0.10236 | 37 | 48 | 47 |
| 11/32 | 9.78843 | 0.21157 | 9.89134 | 0.10866 | 9.89709 | 0.10291 | 37 | 54 | 21 |
| 3/8 | 9.78933 | 0.21067 | 9.89279 | 0.10721 | 9.89654 | 0.10346 | 37 | 59 | 56 |
| 13/32 | 9.79023 | 0.20977 | 9.89424 | 0.10576 | 9.89599 | 0.10401 | 38 | 05 | 29 |
| 7/16 | 9.79112 | 0.20888 | 9.89568 | 0.10432 | 9.89544 | 0.10456 | 38 | 11 | 01 |
| 15/32 | 9.79200 | 0.20800 | 9.89711 | 0.10289 | 9.89489 | 0.10511 | 38 | 16 | 32 |
| 1/2 | 9.79288 | 0.20712 | 9.89854 | 0.10146 | 9.89434 | 0.10566 | 38 | 22 | 03 |
| 17/32 | 9.79376 | 0.20624 | 9.89997 | 0.10003 | 9.89379 | 0.10621 | 38 | 27 | 33 |
| 9/16 | 9.79463 | 0.20537 | 9.90139 | 0.09861 | 9.89324 | 0.10676 | 38 | 33 | 02 |
| 19/32 | 9.79550 | 0.20450 | 9.90281 | 0.09719 | 9.89269 | 0.10731 | 38 | 38 | 30 |
| 5/8 | 9.79636 | 0.20364 | 9.90422 | 0.09578 | 9.89214 | 0.10786 | 38 | 43 | 57 |
| 21/32 | 9.79721 | 0.20279 | 9.90563 | 0.09437 | 9.89158 | 0.10842 | 38 | 49 | 24 |
| 11/16 | 9.79806 | 0.20194 | 9.90703 | 0.09297 | 9.89103 | 0.10897 | 38 | 54 | 49 |
| 23/32 | 9.79891 | 0.20109 | 9.90843 | 0.09157 | 9.89048 | 0.10952 | 39 | 00 | 14 |
| 3/4 | 9.79975 | 0.20025 | 9.90982 | 0.09018 | 9.88993 | 0.11007 | 39 | 05 | 38 |
| 25/32 | 9.80058 | 0.19942 | 9.91121 | 0.08879 | 9.88937 | 0.11063 | 39 | 11 | 01 |
| 13/16 | 9.80142 | 0.19858 | 9.91260 | 0.08740 | 9.88882 | 0.11118 | 39 | 16 | 23 |
| 27/32 | 9.80224 | 0.19776 | 9.91398 | 0.08602 | 9.88826 | 0.11174 | 39 | 21 | 45 |
| 7/8 | 9.80306 | 0.19694 | 9.91536 | 0.08464 | 9.88771 | 0.11229 | 39 | 27 | 06 |
| 29/32 | 9.80388 | 0.19612 | 9.91673 | 0.08327 | 9.88715 | 0.11285 | 39 | 32 | 25 |
| 15/16 | 9.80469 | 0.19531 | 9.91810 | 0.08190 | 9.88660 | 0.11340 | 39 | 37 | 44 |
| 31/32 | 9.80550 | 0.19450 | 9.91946 | 0.08054 | 9.88604 | 0.11396 | 39 | 43 | 03 |
| 1 | 9.80631 | 0.19369 | 9.92082 | 0.07918 | 9.88549 | 0.11451 | 39 | 48 | 20 |

| Fraction of an Inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.64018 | 1.56205 | 0.83333 | 1.20000 | 0.76822 | 1.30171 | 39 | 48 | 20 |
| 1/32 | 0.64136 | 1.55918 | 0.83594 | 1.19626 | 0.76724 | 1.30338 | 39 | 53 | 37 |
| 1/16 | 0.64254 | 1.55633 | 0.83854 | 1.19255 | 0.76626 | 1.30505 | 39 | 58 | 52 |
| 3/32 | 0.64371 | 1.55350 | 0.84115 | 1.18885 | 0.76527 | 1.30672 | 40 | 04 | 07 |
| 1/8 | 0.64487 | 1.55070 | 0.84375 | 1.18519 | 0.76429 | 1.30840 | 40 | 09 | 22 |
| 5/32 | 0.64603 | 1.54791 | 0.84635 | 1.18154 | 0.76331 | 1.31008 | 40 | 14 | 35 |
| 3/16 | 0.64719 | 1.54515 | 0.84896 | 1.17791 | 0.76233 | 1.31177 | 40 | 19 | 48 |
| 7/32 | 0.64834 | 1.54240 | 0.85156 | 1.17431 | 0.76135 | 1.31345 | 40 | 24 | 59 |
| 1/4 | 0.64949 | 1.53968 | 0.85417 | 1.17073 | 0.76037 | 1.31514 | 40 | 30 | 10 |
| 9/32 | 0.65063 | 1.53698 | 0.85677 | 1.16717 | 0.75940 | 1.31684 | 40 | 35 | 20 |
| 5/16 | 0.65177 | 1.53429 | 0.85938 | 1.16364 | 0.75842 | 1.31853 | 40 | 40 | 30 |
| 11/32 | 0.65290 | 1.53163 | 0.86198 | 1.16012 | 0.75744 | 1.32023 | 40 | 45 | 38 |
| 3/8 | 0.65403 | 1.52898 | 0.86458 | 1.15663 | 0.75647 | 1.32193 | 40 | 50 | 46 |
| 13/32 | 0.65516 | 1.52636 | 0.86719 | 1.15315 | 0.75549 | 1.32364 | 40 | 55 | 53 |
| 7/16 | 0.65628 | 1.52375 | 0.86979 | 1.14970 | 0.75452 | 1.32534 | 41 | 00 | 59 |
| 15/32 | 0.65739 | 1.52116 | 0.87240 | 1.14627 | 0.75355 | 1.32706 | 41 | 06 | 05 |
| 1/2 | 0.65851 | 1.51859 | 0.87500 | 1.14286 | 0.75258 | 1.32877 | 41 | 11 | 09 |
| 17/32 | 0.65961 | 1.51604 | 0.87760 | 1.13947 | 0.75161 | 1.33048 | 41 | 16 | 13 |
| 9/16 | 0.66072 | 1.51351 | 0.88021 | 1.13609 | 0.75064 | 1.33220 | 41 | 21 | 16 |
| 19/32 | 0.66182 | 1.51100 | 0.88281 | 1.13274 | 0.74967 | 1.33393 | 41 | 26 | 18 |
| 5/8 | 0.66291 | 1.50850 | 0.88542 | 1.12941 | 0.74870 | 1.33565 | 41 | 31 | 20 |
| 21/32 | 0.66400 | 1.50602 | 0.88802 | 1.12610 | 0.74773 | 1.33738 | 41 | 36 | 21 |
| 11/16 | 0.66509 | 1.50356 | 0.89063 | 1.12281 | 0.74677 | 1.33911 | 41 | 41 | 21 |
| 23/32 | 0.66617 | 1.50112 | 0.89323 | 1.11953 | 0.74580 | 1.34084 | 41 | 46 | 20 |
| 3/4 | 0.66725 | 1.49869 | 0.89583 | 1.11628 | 0.74484 | 1.34258 | 41 | 51 | 18 |
| 25/32 | 0.66832 | 1.49628 | 0.89844 | 1.11304 | 0.74387 | 1.34432 | 41 | 56 | 16 |
| 13/16 | 0.66939 | 1.49389 | 0.90104 | 1.10983 | 0.74291 | 1.34606 | 42 | 01 | 13 |
| 27/32 | 0.67046 | 1.49152 | 0.90365 | 1.10663 | 0.74195 | 1.34780 | 42 | 06 | 09 |
| 7/8 | 0.67152 | 1.48916 | 0.90625 | 1.10345 | 0.74099 | 1.34955 | 42 | 11 | 04 |
| 29/32 | 0.67258 | 1.48682 | 0.90885 | 1.10029 | 0.74003 | 1.35130 | 42 | 15 | 59 |
| 15/16 | 0.67363 | 1.48449 | 0.91146 | 1.09714 | 0.73907 | 1.35305 | 42 | 20 | 52 |
| 31/32 | 0.67468 | 1.48219 | 0.91406 | 1.09402 | 0.73811 | 1.35481 | 42 | 25 | 45 |
| 1 | 0.67572 | 1.47989 | 0.91667 | 1.09091 | 0.73715 | 1.35657 | 42 | 30 | 38 |

| Fraction of an Inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 9.80631 | 0.19369 | 9.92082 | 0.07918 | 9.88549 | 0.11451 | 39 | 48 | 20 |
| 1/32 | 9.80710 | 0.19290 | 9.92217 | 0.07783 | 9.88493 | 0.11507 | 39 | 53 | 37 |
| 1/16 | 9.80790 | 0.19210 | 9.92352 | 0.07648 | 9.88437 | 0.11563 | 39 | 58 | 52 |
| 3/32 | 9.80869 | 0.19131 | 9.92487 | 0.07513 | 9.88382 | 0.11618 | 40 | 04 | 07 |
| 1/8 | 9.80947 | 0.19053 | 9.92621 | 0.07379 | 9.88326 | 0.11674 | 40 | 09 | 22 |
| 5/32 | 9.81025 | 0.18975 | 9.92755 | 0.07245 | 9.88270 | 0.11730 | 40 | 14 | 35 |
| 3/16 | 9.81103 | 0.18897 | 9.92889 | 0.07111 | 9.88214 | 0.11786 | 40 | 19 | 48 |
| 7/32 | 9.81180 | 0.18820 | 9.93022 | 0.06978 | 9.88159 | 0.11841 | 40 | 24 | 59 |
| 1/4 | 9.81257 | 0.18743 | 9.93154 | 0.06846 | 9.88103 | 0.11897 | 40 | 30 | 10 |
| 9/32 | 9.81333 | 0.18667 | 9.93286 | 0.06714 | 9.88047 | 0.11953 | 40 | 35 | 20 |
| 5/16 | 9.81409 | 0.18591 | 9.93418 | 0.06582 | 9.87991 | 0.12009 | 40 | 40 | 30 |
| 11/32 | 9.81485 | 0.18515 | 9.93550 | 0.06450 | 9.87935 | 0.12065 | 40 | 45 | 38 |
| 3/8 | 9.81560 | 0.18440 | 9.93681 | 0.06319 | 9.87879 | 0.12121 | 40 | 50 | 46 |
| 13/32 | 9.81634 | 0.18366 | 9.93811 | 0.06189 | 9.87823 | 0.12177 | 40 | 55 | 53 |
| 7/16 | 9.81709 | 0.18291 | 9.93942 | 0.06058 | 9.87767 | 0.12233 | 41 | 00 | 59 |
| 15/32 | 9.81782 | 0.18218 | 9.94071 | 0.05929 | 9.87711 | 0.12289 | 41 | 06 | 05 |
| 1/2 | 9.81856 | 0.18144 | 9.94201 | 0.05799 | 9.87655 | 0.12345 | 41 | 11 | 09 |
| 17/32 | 9.81929 | 0.18071 | 9.94330 | 0.05670 | 9.87599 | 0.12401 | 41 | 16 | 13 |
| 9/16 | 9.82001 | 0.17999 | 9.94459 | 0.05541 | 9.87543 | 0.12457 | 41 | 21 | 16 |
| 19/32 | 9.82074 | 0.17926 | 9.94587 | 0.05413 | 9.87487 | 0.12513 | 41 | 26 | 18 |
| 5/8 | 9.82145 | 0.17855 | 9.94715 | 0.05285 | 9.87431 | 0.12569 | 41 | 31 | 20 |
| 21/32 | 9.82217 | 0.17783 | 9.94842 | 0.05158 | 9.87375 | 0.12625 | 41 | 36 | 21 |
| 11/16 | 9.82288 | 0.17712 | 9.94969 | 0.05031 | 9.87318 | 0.12682 | 41 | 41 | 21 |
| 23/32 | 9.82359 | 0.17641 | 9.95096 | 0.04904 | 9.87262 | 0.12738 | 41 | 46 | 20 |
| 3/4 | 9.82429 | 0.17571 | 9.95223 | 0.04777 | 9.87206 | 0.12794 | 41 | 51 | 18 |
| 25/32 | 9.82499 | 0.17501 | 9.95349 | 0.04651 | 9.87150 | 0.12850 | 41 | 56 | 16 |
| 13/16 | 9.82568 | 0.17432 | 9.95474 | 0.04526 | 9.87094 | 0.12906 | 42 | 01 | 13 |
| 27/32 | 9.82637 | 0.17363 | 9.95600 | 0.04400 | 9.87037 | 0.12963 | 42 | 06 | 09 |
| 7/8 | 9.82706 | 0.17294 | 9.95725 | 0.04275 | 9.86981 | 0.13019 | 42 | 11 | 04 |
| 29/32 | 9.82774 | 0.17226 | 9.95849 | 0.04151 | 9.86925 | 0.13075 | 42 | 15 | 59 |
| 15/16 | 9.82842 | 0.17158 | 9.95974 | 0.04026 | 9.86868 | 0.13132 | 42 | 20 | 52 |
| 31/32 | 9.82910 | 0.17090 | 9.96098 | 0.03902 | 9.86812 | 0.13188 | 42 | 25 | 45 |
| 1 | 9.82977 | 0.17023 | 9.96221 | 0.03779 | 9.86756 | 0.13244 | 42 | 30 | 38 |

| Fraction of an Inch | NATURAL FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec. | Deg. | Min. | Sec. |
| 0 | 0.67572 | 1.47989 | 0.91667 | 1.09091 | 0.73715 | 1.35657 | 42 | 30 | 38 |
| 1/32 | 0.67677 | 1.47762 | 0.91927 | 1.08782 | 0.73620 | 1.35833 | 42 | 35 | 29 |
| 1/16 | 0.67780 | 1.47536 | 0.92188 | 1.08475 | 0.73524 | 1.36009 | 42 | 40 | 20 |
| 3/32 | 0.67884 | 1.47311 | 0.92448 | 1.08169 | 0.73429 | 1.36186 | 42 | 45 | 10 |
| 1/8 | 0.67987 | 1.47088 | 0.92708 | 1.07865 | 0.73334 | 1.36363 | 42 | 49 | 59 |
| 5/32 | 0.68089 | 1.46867 | 0.92969 | 1.07563 | 0.73239 | 1.36540 | 42 | 54 | 48 |
| 3/16 | 0.68191 | 1.46647 | 0.93229 | 1.07263 | 0.73144 | 1.36718 | 42 | 59 | 35 |
| 7/32 | 0.68293 | 1.46428 | 0.93490 | 1.06964 | 0.73049 | 1.36895 | 43 | 04 | 22 |
| 1/4 | 0.68394 | 1.46211 | 0.93750 | 1.06667 | 0.72954 | 1.37073 | 43 | 09 | 09 |
| 9/32 | 0.68495 | 1.45996 | 0.94010 | 1.06371 | 0.72859 | 1.37251 | 43 | 13 | 54 |
| 5/16 | 0.68596 | 1.45782 | 0.94271 | 1.06077 | 0.72764 | 1.37430 | 43 | 18 | 39 |
| 11/32 | 0.68696 | 1.45570 | 0.94531 | 1.05785 | 0.72670 | 1.37609 | 43 | 23 | 23 |
| 3/8 | 0.68795 | 1.45358 | 0.94792 | 1.05495 | 0.72575 | 1.37788 | 43 | 28 | 06 |
| 13/32 | 0.68895 | 1.45149 | 0.95052 | 1.05205 | 0.72481 | 1.37967 | 43 | 32 | 49 |
| 7/16 | 0.68994 | 1.44941 | 0.95313 | 1.04918 | 0.72387 | 1.38147 | 43 | 37 | 31 |
| 15/32 | 0.69092 | 1.44734 | 0.95573 | 1.04632 | 0.72293 | 1.38326 | 43 | 42 | 12 |
| 1/2 | 0.69191 | 1.44528 | 0.95833 | 1.04348 | 0.72199 | 1.38506 | 43 | 46 | 52 |
| 17/32 | 0.69288 | 1.44324 | 0.96094 | 1.04065 | 0.72105 | 1.38687 | 43 | 51 | 32 |
| 9/16 | 0.69386 | 1.44122 | 0.96354 | 1.03784 | 0.72011 | 1.38867 | 43 | 56 | 11 |
| 19/32 | 0.69483 | 1.43920 | 0.96615 | 1.03504 | 0.71918 | 1.39048 | 44 | 00 | 49 |
| 5/8 | 0.69580 | 1.43720 | 0.96875 | 1.03226 | 0.71824 | 1.39229 | 44 | 05 | 26 |
| 21/32 | 0.69676 | 1.43522 | 0.97135 | 1.02949 | 0.71731 | 1.39411 | 44 | 10 | 03 |
| 11/16 | 0.69772 | 1.43325 | 0.97396 | 1.02674 | 0.71637 | 1 39592 | 44 | 14 | 39 |
| 23/32 | 0.69867 | 1.43128 | 0.97656 | 1.02400 | 0.71544 | 1.39774 | 44 | 19 | 14 |
| 3/4 | 0.69963 | 1.42934 | 0.97917 | 1.02128 | 0.71451 | 1.39956 | 44 | 23 | 49 |
| 25/32 | 0.70057 | 1.42740 | 0.98177 | 1.01857 | 0.71358 | 1.40138 | 44 | 28 | 23 |
| 13/16 | 0.70152 | 1.42548 | 0.98438 | 1.01587 | 0.71265 | 1.40321 | 44 | 32 | 56 |
| 27/32 | 0.70246 | 1.42357 | 0.98698 | 1.01319 | 0.71172 | 1.40504 | 44 | 37 | 28 |
| 7/8 | 0.70340 | 1.42168 | 0.98958 | 1.01053 | 0.71080 | 1.40687 | 44 | 42 | 00 |
| 29/32 | 0.70433 | 1.41979 | 0.99219 | 1.00787 | 0.70987 | 1.40870 | 44 | 46 | 31 |
| 15/16 | 0.70526 | 1.41792 | 0.99479 | 1.00524 | 0.70895 | 1.41054 | 44 | 51 | 01 |
| 31/32 | 0.70618 | 1.41606 | 0.99740 | 1.00261 | 0.70803 | 1.41237 | 44 | 55 | 31 |
| 1 | 0.70711 | 1.41421 | 1.00000 | 1.00000 | 0.70711 | 1.41421 | 45 | 00 | 00 |

| Fraction of an Inch | LOGARITHMIC FUNCTIONS | | | | | | Angle | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sine. | Cosec. | Tang. | Cotang. | Cosine. | Sec | Deg. | Min. | Sec. |
| 0 | 9.82977 | 0.17023 | 9.96221 | 0.03779 | 9.86756 | 0.13244 | 42 | 30 | 38 |
| 1/32 | 9.83044 | 0.16956 | 9.96344 | 0.03656 | 9.86699 | 0.13301 | 42 | 35 | 29 |
| 1/16 | 9.83110 | 0.16890 | 9.96467 | 0.03533 | 9.86643 | 0.13357 | 42 | 40 | 20 |
| 3/32 | 9.83177 | 0.16823 | 9.96590 | 0.03410 | 9.86587 | 0.13413 | 42 | 45 | 10 |
| 1/8 | 9.83242 | 0.16758 | 9.96712 | 0.03288 | 9.86530 | 0.13470 | 42 | 49 | 59 |
| 5/32 | 9.83308 | 0.16692 | 9.96834 | 0.03166 | 9.86474 | 0.13526 | 42 | 54 | 48 |
| 3/16 | 9.83373 | 0.16627 | 9.96955 | 0.03045 | 9.86418 | 0.13582 | 42 | 59 | 35 |
| 7/32 | 9.83437 | 0.16563 | 9.97076 | 0.02924 | 9.86361 | 0.13639 | 43 | 04 | 22 |
| 1/4 | 9.83502 | 0.16498 | 9.97197 | 0.02803 | 9.86305 | 0.13695 | 43 | 09 | 09 |
| 9/32 | 9.83566 | 0.16434 | 9.97318 | 0.02682 | 9.86248 | 0.13752 | 43 | 13 | 54 |
| 5/16 | 9.83630 | 0.16370 | 9.97438 | 0.02562 | 9.86192 | 0.13808 | 43 | 18 | 39 |
| 11/32 | 9.83693 | 0.16307 | 9.97558 | 0.02442 | 9.86135 | 0.13865 | 43 | 23 | 23 |
| 3/8 | 9.83756 | 0.16244 | 9.97677 | 0.02323 | 9.86079 | 0.13921 | 43 | 28 | 06 |
| 13/32 | 9.83819 | 0.16181 | 9.97796 | 0.02204 | 9.86022 | 0.13978 | 43 | 32 | 49 |
| 7/16 | 9.83881 | 0.16119 | 9.97915 | 0.02085 | 9.85966 | 0.14034 | 43 | 37 | 31 |
| 15/32 | 9.83943 | 0.16057 | 9.98033 | 0.01967 | 9.85909 | 0.14091 | 43 | 42 | 12 |
| 1/2 | 9.84005 | 0.15995 | 9.98152 | 0.01848 | 9.85853 | 0.14147 | 43 | 46 | 52 |
| 17/32 | 9.84066 | 0.15934 | 9.98270 | 0.01730 | 9.85797 | 0.14203 | 43 | 51 | 32 |
| 9/16 | 9.84127 | 0.15873 | 9.98387 | 0.01613 | 9.85740 | 0.14260 | 43 | 56 | 11 |
| 19/32 | 9.84188 | 0.15812 | 9.98504 | 0.01496 | 9.85683 | 0.14317 | 44 | 00 | 49 |
| 5/8 | 9.84248 | 0.15752 | 9.98621 | 0.01379 | 9.85627 | 0.14373 | 44 | 05 | 26 |
| 21/32 | 9.84308 | 0.15692 | 9.98738 | 0.01262 | 9.85570 | 0.14430 | 44 | 10 | 03 |
| 11/16 | 9.84368 | 0.15632 | 9.98854 | 0.01146 | 9.85514 | 0.14486 | 44 | 14 | 39 |
| 23/32 | 9.84427 | 0.15573 | 9.98970 | 0.01030 | 9.85457 | 0.14543 | 44 | 19 | 14 |
| 3/4 | 9.84487 | 0.15513 | 9.99086 | 0.00914 | 9.85401 | 0.14599 | 44 | 23 | 49 |
| 25/32 | 9.84545 | 0.15455 | 9.99201 | 0.00799 | 9.85344 | 0.14656 | 44 | 28 | 23 |
| 13/16 | 9.84604 | 0.15396 | 9.99316 | 0.00684 | 9.85288 | 0.14712 | 44 | 32 | 56 |
| 27/32 | 9.84662 | 0.15338 | 9.99431 | 0.00569 | 9.85231 | 0.14769 | 44 | 37 | 28 |
| 7/8 | 9.84720 | 0.15280 | 9.99545 | 0.00455 | 9.85175 | 0.14825 | 44 | 42 | 00 |
| 29/32 | 9.84778 | 0.15222 | 9.99659 | 0.00341 | 9.85118 | 0.14882 | 44 | 46 | 31 |
| 15/16 | 9.84835 | 0.15165 | 9.99773 | 0.00227 | 9.85062 | 0.14938 | 44 | 51 | 01 |
| 31/32 | 9.84892 | 0.15108 | 9.99887 | 0.00113 | 9.85005 | 0.14995 | 44 | 55 | 31 |
| 1 | 9.84949 | 0.15051 | 0.00000 | 0.00000 | 9.84949 | 0.15051 | 45 | 00 | 00 |

# MULTIPLICATION TABLE FOR RIVET SPACING.

| In. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 1/8 | -1 1/8 | - 2 1/4 | - 3 3/8 | - 4 1/2 | - 5 5/8 | - 6 3/4 | - 7 7/8 | - 9 | -10 1/8 | -11 1/4 |
| 1 1/4 | -1 1/4 | - 2 1/2 | - 3 3/4 | - 5 | - 6 1/4 | - 7 1/2 | - 8 3/4 | -10 | -11 1/4 | 1- 0 1/2 |
| 1 3/8 | -1 3/8 | - 2 3/4 | - 4 1/8 | - 5 1/2 | - 6 7/8 | - 8 1/4 | - 9 5/8 | -11 | 1- 0 3/8 | 1- 1 3/4 |
| 1 1/2 | -1 1/2 | - 3 | - 4 1/2 | - 6 | - 7 1/2 | - 9 | -10 1/2 | 1- 0 | 1- 1 1/2 | 1- 3 |
| 1 5/8 | -1 5/8 | - 3 1/4 | - 4 7/8 | - 6 1/2 | - 8 1/8 | - 9 3/4 | -11 3/8 | 1- 1 | 1- 2 5/8 | 1- 4 1/4 |
| 1 3/4 | -1 3/4 | - 3 1/2 | - 5 1/4 | - 7 | - 8 3/4 | -10 1/2 | 1- 0 1/4 | 1- 2 | 1- 3 3/4 | 1- 5 1/2 |
| 1 7/8 | -1 7/8 | - 3 3/4 | - 5 5/8 | - 7 1/2 | - 9 3/8 | -11 1/4 | 1- 1 1/8 | 1- 3 | 1- 4 7/8 | 1- 6 3/4 |
| 2 | -2 | - 4 | - 6 | - 8 | - 10 | 1- 0 | 1- 2 | 1- 4 | 1- 6 | 1- 8 |
| 2 1/8 | -2 1/8 | - 4 1/4 | - 6 3/8 | - 8 1/2 | -10 5/8 | 1- 0 3/4 | 1 -2 7/8 | 1- 5 | 1- 7 1/8 | 1- 9 1/4 |
| 2 1/4 | -2 1/4 | - 4 1/2 | - 6 3/4 | - 9 | -11 1/4 | 1- 1 1/2 | 1- 3 3/4 | 1- 6 | 1- 8 1/4 | 1-10 1/2 |
| 2 3/8 | -2 3/8 | - 4 3/4 | - 7 1/8 | - 9 1/2 | -11 7/8 | 1- 2 1/4 | 1- 4 5/8 | 1- 7 | 1- 9 3/8 | 1-11 3/4 |
| 2 1/2 | -2 1/2 | - 5 | - 7 1/2 | -10 | 1- 0 1/2 | 1- 3 | 1- 5 1/2 | 1- 8 | 1-10 1/2 | 2- 1 |
| 2 5/8 | -2 5/8 | - 5 1/4 | - 7 7/8 | -10 1/2 | 1- 1 1/8 | 1- 3 3/4 | 1- 6 3/8 | 1- 9 | 1-11 5/8 | 2- 2 1/4 |
| 2 3/4 | -2 3/4 | - 5 1/2 | - 8 1/4 | -11 | 1- 1 3/4 | 1- 4 1/2 | 1- 7 1/4 | 1-10 | 2- 0 3/4 | 2- 3 1/2 |
| 2 7/8 | -2 7/8 | - 5 3/4 | - 8 5/8 | -11 1/2 | 1 -2 3/8 | 1- 5 1/4 | 1- 8 1/8 | 1-11 | 2- 1 7/8 | 2- 4 3/4 |
| 3 | -3 | - 6 | - 9 | 1- 0 | 1 -3 | 1- 6 | 1- 9 | 2- 0 | 2- 3 | 2- 6 |
| 3 1/8 | -3 1/8 | - 6 1/4 | - 9 3/8 | 1- 0 1/2 | 1- 3 3/8 | 1- 6 3/4 | 1- 9 7/8 | 2- 1 | 2- 4 1/8 | 2- 7 1/4 |
| 3 1/4 | -3 1/4 | - 6 1/2 | - 9 3/4 | 1- 1 | 1- 4 1/4 | 1- 7 1/2 | 1-10 3/4 | 2- 2 | 2- 5 1/4 | 2- 8 1/2 |
| 3 3/8 | -3 3/8 | - 6 3/4 | -10 1/8 | 1- 1 1/2 | 1- 4 7/8 | 1- 8 1/4 | 1-11 1/8 | 2- 3 | 2- 6 3/8 | 2- 9 3/4 |
| 3 1/2 | -3 1/2 | - 7 | -10 1/2 | 1- 2 | 1- 5 1/2 | 1- 9 | 2- 0 1/2 | 2- 4 | 2- 7 1/2 | 2-11 |
| 3 5/8 | -3 5/8 | - 7 1/4 | -10 7/8 | 1- 2 1/2 | 1- 6 1/8 | 1- 9 3/4 | 2- 1 1/8 | 2- 5 | 2- 8 5/8 | 3- 0 1/4 |
| 3 3/4 | -3 3/4 | - 7 1/2 | -11 1/4 | 1- 3 | 1- 6 3/4 | 1-10 1/2 | 2- 2 1/4 | 2- 6 | 2- 9 3/4 | 3- 1 1/2 |
| 3 7/8 | -3 7/8 | - 7 3/4 | -11 5/8 | 1- 3 1/2 | 1- 7 3/8 | 1-11 1/4 | 2- 3 1/8 | 2- 7 | 2-10 7/8 | 3- 2 3/4 |
| 4 | -4 | - 8 | 1- 0 | 1- 4 | 1- 8 | 2- 0 | 2- 4 | 2- 8 | 3- 0 | 3- 4 |
| 4 1/8 | -4 1/8 | - 8 1/4 | 1- 0 3/8 | 1- 4 1/2 | 1- 8 5/8 | 2- 0 3/4 | 2- 4 7/8 | 2- 9 | 3- 1 1/8 | 3- 5 1/4 |
| 4 1/4 | -4 1/4 | - 8 1/2 | 1- 0 3/4 | 1- 5 | 1- 9 1/4 | 2- 1 1/2 | 2- 5 3/4 | 2-10 | 3- 2 1/4 | 3- 6 1/2 |
| 4 3/8 | -4 3/8 | - 8 3/4 | 1- 1 1/8 | 1- 5 1/2 | 1- 9 7/8 | 2- 2 1/4 | 2- 6 5/8 | 2-11 | 3- 3 3/8 | 3- 7 3/4 |
| 4 1/2 | -4 1/2 | - 9 | 1- 1 1/2 | 1- 6 | 1-10 1/2 | 2- 3 | 2- 7 1/2 | 3- 0 | 3- 4 1/2 | 3- 9 |
| 4 5/8 | -4 5/8 | - 9 1/4 | 1- 1 7/8 | 1- 6 1/2 | 1-11 1/8 | 2- 3 3/4 | 2- 8 3/8 | 3- 1 | 3- 5 5/8 | 3-10 1/4 |
| 4 3/4 | -4 3/4 | - 9 1/2 | 1- 2 1/4 | 1- 7 | 1-11 3/4 | 2- 4 1/2 | 2- 9 1/4 | 3- 2 | 3- 6 3/4 | 3-11 1/2 |
| 4 7/8 | -4 7/8 | - 9 3/4 | 1- 2 5/8 | 1- 7 1/2 | 2- 0 3/8 | 2- 5 1/4 | 2-10 1/8 | 3- 3 | 3- 7 7/8 | 4- 0 3/4 |
| 5 | -5 | -10 | 1- 3 | 1- 8 | 2- 1 | 2- 6 | 2-11 | 3- 4 | 3- 9 | 4- 2 |
| 5 1/8 | -5 1/8 | -10 1/4 | 1- 3 3/8 | 1- 8 1/2 | 2- 1 5/8 | 2- 6 3/4 | 2-11 7/8 | 3- 5 | 3-10 1/8 | 4 3 1/4 |
| 5 1/4 | -5 1/4 | -10 1/2 | 1- 3 3/4 | 1- 9 | 2- 2 1/4 | 2- 7 1/2 | 3- 0 3/4 | 3- 6 | 3-11 1/4 | 4- 4 1/2 |
| 5 3/8 | -5 3/8 | -10 3/4 | 1- 4 1/8 | 1- 9 1/2 | 2- 2 7/8 | 2- 8 1/4 | 3- 1 5/8 | 3- 7 | 4- 0 3/8 | 4- 5 3/4 |
| 5 1/2 | -5 1/2 | -11 | 1- 4 1/2 | 1-10 | 2- 3 1/2 | 2- 9 | 3- 2 1/2 | 3- 8 | 4- 1 1/2 | 4- 7 |
| 5 5/8 | -5 5/8 | -11 1/4 | 1- 4 7/8 | 1-10 1/2 | 2- 4 1/8 | 2- 9 3/4 | 3- 3 3/8 | 3- 9 | 4- 2 5/8 | 4- 8 1/4 |
| 5 3/4 | -5 3/4 | -11 1/2 | 1- 5 1/4 | 1-11 | 2- 4 3/4 | 2-10 1/2 | 3- 4 1/4 | 3-10 | 4- 3 3/4 | 4- 9 1/2 |
| 5 7/8 | -5 7/8 | -11 3/4 | 1- 5 5/8 | 1-11 1/2 | 2- 5 3/8 | 2-11 1/4 | 3- 5 1/8 | 3-11 | 4- 4 7/8 | 4-10 3/4 |
| 6 | -6 | 1- 0 | 1- 6 | 2- 0 | 2- 6 | 3- 0 | 3- 6 | 4- 0 | 4- 6 | 5- 0 |

# MULTIPLICATION TABLE FOR RIVET SPACING.

| In. | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1⅛ | 1- 0⅜ | 1- 1½ | 1- 2⅝ | 1- 3¾ | 1- 4⅞ | 1- 6 | 1- 7⅛ | 1- 8¼ | 1- 9⅜ | 1-10½ |
| 1¼ | 1- 1¾ | 1- 3 | 1- 4¼ | 1- 5½ | 1- 6¾ | 1- 8 | 1- 9¼ | 1-10½ | 1-11⅜ | 2- 1 |
| 1⅜ | 1- 3⅛ | 1- 4½ | 1- 5⅞ | 1- 7¼ | 1- 8⅝ | 1-10 | 1-11⅜ | 2- 0¾ | 2- 2⅛ | 2- 3½ |
| 1½ | 1- 4½ | 1- 6 | 1- 7½ | 1- 9 | 1-10½ | 2- 0 | 2- 1½ | 2- 3 | 2- 4½ | 2- 6 |
| 1⅝ | 1- 5⅞ | 1- 7½ | 1- 9⅛ | 1-10¾ | 2- 0⅜ | 2- 2 | 2- 3⅝ | 2- 5¼ | 2- 6⅞ | 2- 8½ |
| 1¾ | 1- 7¼ | 1- 9 | 1-10¾ | 2- 0½ | 2- 2¼ | 2- 4 | 2- 5¾ | 2- 7½ | 2- 9¼ | 2-11 |
| 1⅞ | 1- 8⅝ | 1-10½ | 2- 0⅜ | 2- 2¼ | 2- 4⅛ | 2- 6 | 2- 7⅞ | 2- 9¾ | 2-11⅜ | 3- 1½ |
| 2 | 1-10 | 2- 0 | 2- 2 | 2- 4 | 2- 6 | 2- 8 | 2-10 | 3- 0 | 3- 2 | 3- 4 |
| 2⅛ | 1-11⅜ | 2- 1½ | 2- 3⅝ | 2- 5¾ | 2- 7⅞ | 2-10 | 3- 0⅛ | 3- 2¼ | 3- 4⅜ | 3- 6½ |
| 2¼ | 2- 0¾ | 2- 3 | 2- 5¼ | 2- 7½ | 2- 9¾ | 3- 0 | 3- 2¼ | 3- 4½ | 3- 6¾ | 3- 9 |
| 2⅜ | 2- 2⅛ | 2- 4½ | 2- 6⅞ | 2- 9¼ | 2-11⅝ | 3- 2 | 3- 4⅜ | 3- 6¾ | 3- 9⅛ | 3-11½ |
| 2½ | 2- 3½ | 2- 6 | 2- 8½ | 2-11 | 3- 1½ | 3- 4 | 3- 6½ | 3- 9 | 3-11½ | 4- 2 |
| 2⅝ | 2- 4⅞ | 2- 7½ | 2-10⅛ | 3- 0¾ | 3- 3⅜ | 3- 6 | 3- 8⅝ | 3-11¼ | 4- 1⅞ | 4- 4½ |
| 2¾ | 2- 6¼ | 2- 9 | 2-11¾ | 3- 2½ | 3- 5¼ | 3- 8 | 3-10¾ | 4- 1½ | 4- 4¼ | 4- 7 |
| 2⅞ | 2- 7⅝ | 2-10½ | 3- 1⅜ | 3- 4¼ | 3- 7⅛ | 3-10 | 4- 0⅞ | 4- 3¾ | 4- 6⅝ | 4- 9½ |
| 3 | 2- 9 | 3- 0 | 3- 3 | 3- 6 | 3- 9 | 4- 0 | 4- 3 | 4- 6 | 4- 9 | 5- 0 |
| 3⅛ | 2-10⅜ | 3- 1½ | 3- 4⅝ | 3- 7¾ | 3-10⅞ | 4- 2 | 4- 5⅛ | 4- 8¼ | 4-11⅜ | 5- 2½ |
| 3¼ | 2-11¾ | 3- 3 | 3- 6¼ | 3- 9½ | 4- 0¾ | 4- 4 | 4- 7¼ | 4-10½ | 5- 1⅜ | 5- 5 |
| 3⅜ | 3- 1⅛ | 3- 4½ | 3- 7⅞ | 3-11¼ | 4- 2⅝ | 4- 6 | 4- 9⅜ | 5- 0¾ | 5- 4⅛ | 5- 7½ |
| 3½ | 3- 2½ | 3- 6 | 3- 9½ | 4- 1 | 4- 4½ | 4- 8 | 4-11½ | 5- 3 | 5- 6½ | 5-10 |
| 3⅝ | 3- 3⅞ | 3- 7½ | 3-11⅛ | 4- 2¾ | 4- 6⅜ | 4-10 | 5- 1⅝ | 5- 5¼ | 5- 8⅞ | 6- 0½ |
| 3¾ | 3- 5¼ | 3- 9 | 4- 0¾ | 4- 4½ | 4- 8¼ | 5- 0 | 5- 3¾ | 5- 7½ | 5-11¼ | 6- 3 |
| 3⅞ | 3- 6⅝ | 3-10½ | 4- 2⅜ | 4- 6¼ | 4-10⅛ | 5- 2 | 5- 5⅞ | 5- 9¾ | 6- 1⅝ | 6- 5½ |
| 4 | 3- 8 | 4- 0 | 4- 4 | 4- 8 | 5- 0 | 5- 4 | 5- 8 | 6- 0 | 6- 4 | 6- 8 |
| 4⅛ | 3- 9⅜ | 4- 1½ | 4- 5⅝ | 4- 9¾ | 5- 1⅞ | 5- 6 | 5-10⅛ | 6- 2¼ | 6- 6⅜ | 6-10½ |
| 4¼ | 3-10¾ | 4- 3 | 4- 7¼ | 4-11½ | 5- 3¾ | 5- 8 | 6- 0¼ | 6- 4½ | 6- 8¾ | 7- 1 |
| 4⅜ | 4- 0⅛ | 4- 4½ | 4- 8⅞ | 5- 1¼ | 5- 5⅝ | 5-10 | 6- 2⅜ | 6- 6¾ | 6-11⅛ | 7- 3½ |
| 4½ | 4- 1½ | 4- 6 | 4-10½ | 5- 3 | 5- 7½ | 6- 0 | 6- 4½ | 6- 9 | 7- 1½ | 7- 6 |
| 4⅝ | 4- 2⅞ | 4- 7½ | 5- 0⅛ | 5- 4¾ | 5- 9⅜ | 6- 2 | 6- 6⅝ | 6-11¼ | 7- 3⅞ | 7- 8½ |
| 4¾ | 4- 4¼ | 4- 9 | 5- 1¾ | 5- 6½ | 5-11¼ | 6- 4 | 6- 8¾ | 7- 1½ | 7- 6¼ | 7-11 |
| 4⅞ | 4- 5⅝ | 4-10½ | 5- 3⅜ | 5- 8¼ | 6- 1⅛ | 6- 6 | 6-10⅞ | 7- 3¾ | 7- 8⅝ | 8-1½ |
| 5 | 4- 7 | 5- 0 | 5- 5 | 5-10 | 6- 3 | 6- 8 | 7- 1 | 7- 6 | 7-11 | 8- 4 |
| 5⅛ | 4- 8⅜ | 5- 1½ | 5- 6⅝ | 5-11¾ | 6- 4⅞ | 6-10 | 7- 3⅛ | 7- 8¼ | 8- 1⅜ | 8- 6½ |
| 5¼ | 4- 9¾ | 5- 3 | 5- 8¼ | 6- 1½ | 6- 6¾ | 7- 0 | 7- 5¼ | 7-10½ | 8- 3¾ | 8- 9 |
| 5⅜ | 4-11⅛ | 5- 4½ | 5- 9⅞ | 6- 3¼ | 6- 8⅝ | 7- 2 | 7- 7⅜ | 8- 0¾ | 8- 6⅛ | 8-11½ |
| 5½ | 5- 0½ | 5- 6 | 5-11½ | 6- 5 | 6-10½ | 7- 4 | 7- 9½ | 8- 3 | 8- 8½ | 9- 2 |
| 5⅝ | 5- 1⅞ | 5- 7½ | 6- 1⅛ | 6- 6¾ | 7- 0⅜ | 7- 6 | 7-11⅝ | 8- 5¼ | 8-10⅞ | 9- 4½ |
| 5¾ | 5- 3¼ | 5- 9 | 6- 2¾ | 6- 8½ | 7- 2¼ | 7- 8 | 8- 1¾ | 8- 7½ | 9- 1¼ | 9- 7 |
| 5⅞ | 5- 4⅝ | 5-10½ | 6- 4⅜ | 6-10¼ | 7- 4⅛ | 7 10 | 8- 3⅞ | 8- 9¾ | 9- 3⅝ | 9- 9½ |
| 6 | 5- 6 | 6- 0 | 6- 6 | 7- 0 | 7- 6 | 8- 0 | 8- 6 | 9- 0 | 9- 6 | 10- 0 |

# MULTIPLICATION TABLE FOR RIVET SPACING.

| In. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1⅛ | 1-11⅝ | 2- 0¾ | 2- 1⅞ | 2- 3 | 2- 4⅛ | 2- 5¼ | 2- 6⅜ | 2- 7½ | 2- 8⅝ | 2- 9¾ |
| 1¼ | 2- 2¼ | 2- 3½ | 2- 4¾ | 2- 6 | 2- 7½ | 2- 8½ | 2- 9⅜ | 2-11 | 3- 0¼ | 3- 1½ |
| 1⅜ | 2- 4⅞ | 2- 6¼ | 2- 7⅝ | 2- 9 | 2-10⅜ | 2-11⅞ | 3- 1⅜ | 3- 2½ | 3- 3⅞ | 3- 5¼ |
| 1½ | 2- 7½ | 2- 9 | 2-10½ | 3- 0 | 3- 1½ | 3- 3 | 3- 4½ | 3- 6 | 3- 7½ | 3- 9 |
| 1⅝ | 2-10⅛ | 2-11¾ | 3- 1⅜ | 3- 3 | 3- 4⅝ | 3- 6¼ | 3- 7⅞ | 3- 9½ | 3-11⅜ | 4- 0¾ |
| 1¾ | 3- 0¾ | 3- 2½ | 3- 4¼ | 3- 6 | 3- 7¾ | 3- 9½ | 3-11¼ | 4- 1 | 4- 2¾ | 4- 4½ |
| 1⅞ | 3- 3⅜ | 3- 5¼ | 3- 7⅛ | 3- 9 | 3-10⅞ | 4- 0⅜ | 4- 2⅝ | 4- 4½ | 4- 6⅜ | 4- 8¼ |
| 2 | 3- 6 | 3- 8 | 3-10 | 4- 0 | 4- 2 | 4- 4 | 4- 6 | 4- 8 | 4-10 | 5- 0 |
| 2⅛ | 3- 8⅝ | 3-10¾ | 4- 0⅞ | 4- 3 | 4- 5⅛ | 4- 7¼ | 4- 9⅜ | 4-11½ | 5- 1⅝ | 5- 3¾ |
| 2¼ | 3-11¼ | 4- 1½ | 4- 3¾ | 4- 6 | 4- 8¼ | 4-10½ | 5- 0¾ | 5- 3 | 5- 5½ | 5- 7½ |
| 2⅜ | 4- 1⅞ | 4- 4¼ | 4- 6⅝ | 4- 9 | 4-11⅜ | 5- 1¾ | 5- 4⅛ | 5- 6½ | 5- 8⅞ | 5-11¼ |
| 2½ | 4- 4½ | 4- 7 | 4- 9½ | 5- 0 | 5- 2½ | 5- 5 | 5- 7½ | 5-10 | 6- 0½ | 6- 3 |
| 2⅝ | 4- 7⅛ | 4- 9¾ | 5- 0⅜ | 5- 3 | 5- 5⅝ | 5- 8¼ | 5-10⅞ | 6- 1½ | 6- 4⅛ | 6- 6¾ |
| 2¾ | 4- 9¾ | 5- 0½ | 5- 3¼ | 5- 6 | 5- 8¾ | 5-11½ | 6- 2¼ | 6- 5 | 6- 7¾ | 6-10½ |
| 2⅞ | 5- 0⅜ | 5- 3¼ | 5- 6⅛ | 5- 9 | 5-11⅞ | 6- 2¾ | 6- 5⅝ | 6- 8½ | 6-11⅜ | 7-2¼ |
| 3 | 5- 3 | 5- 6 | 5- 9 | 6- 0 | 6- 3 | 6- 6 | 6- 9 | 7- 0 | 7- 3 | 7- 6 |
| 3⅛ | 5- 5⅝ | 5- 8¾ | 5-11⅞ | 6- 3 | 6- 6⅛ | 6- 9¼ | 7- 0⅜ | 7- 3½ | 7- 6⅝ | 7- 9¾ |
| 3¼ | 5- 8¼ | 5-11½ | 6- 2¾ | 6- 6 | 6- 9¼ | 7- 0½ | 7- 3¾ | 7- 7 | 7-10½ | 8- 1⅓ |
| 3⅜ | 5-10⅞ | 6- 2¼ | 6- 5⅝ | 6- 9 | 7- 0⅜ | 7- 3¾ | 7- 7⅛ | 7-10½ | 8- 1⅞ | 8- 5¼ |
| 3½ | 6- 1½ | 6- 5 | 6- 8½ | 7- 0 | 7- 3½ | 7- 7 | 7-10½ | 8- 2 | 8- 5½ | 8- 9 |
| 3⅝ | 6- 4⅛ | 6- 7¾ | 6-11⅜ | 7- 3 | 7- 6⅝ | 7-10¼ | 8- 1⅞ | 8- 5½ | 8- 9⅛ | 9- 0¾ |
| 3¾ | 6- 6¾ | 6-10½ | 7- 2¼ | 7- 6 | 7- 9¾ | 8- 1½ | 8- 5¼ | 8- 9 | 9- 0¾ | 9- 4½ |
| 3⅞ | 6- 9⅜ | 7- 1¼ | 7- 5⅛ | 7- 9 | 8- 0⅞ | 8- 4¾ | 8- 8⅝ | 9- 0½ | 9- 4⅜ | 9- 8¼ |
| 4 | 7- 0 | 7- 4 | 7- 8 | 8- 0 | 8- 4 | 8- 8 | 9- 0 | 9- 4 | 9- 8 | 10- 0 |
| 4⅛ | 7- 2⅝ | 7- 6¾ | 7-10⅞ | 8- 3 | 8- 7⅛ | 8-11¼ | 9- 3⅜ | 9 7½ | 9-11⅝ | 10- 3¾ |
| 4¼ | 7- 5¼ | 7- 9½ | 8- 1¾ | 8- 6 | 8-10¼ | 9- 2½ | 9- 6¾ | 9-11 | 10- 3¼ | 10- 7½ |
| 4⅜ | 7- 7⅞ | 8- 0¼ | 8- 4⅝ | 8- 9 | 9- 1⅜ | 9- 5¾ | 9-10⅛ | 10- 2½ | 10- 6⅞ | 10-11¼ |
| 4½ | 7-10½ | 8- 3 | 8- 7½ | 9- 0 | 9- 4½ | 9- 9 | 10- 1½ | 10- 6 | 10-10½ | 11- 3 |
| 4⅝ | 8- 1⅛ | 8- 5¾ | 8-10⅜ | 9- 3 | 9- 7⅝ | 10- 0½ | 10- 4⅞ | 10- 9½ | 11- 2⅛ | 11- 6¾ |
| 4¾ | 8- 3¾ | 8- 8½ | 9- 1¼ | 9- 6 | 9-10¾ | 10- 3½ | 10- 8¼ | 11- 1 | 11- 5¾ | 11-10½ |
| 4⅞ | 8- 6⅜ | 8-11¼ | 9- 4⅛ | 9- 9 | 10- 1⅞ | 10- 6¾ | 10-11⅝ | 11- 4½ | 11- 9⅜ | 12- 2¼ |
| 5 | 8- 9 | 9- 2 | 9- 7 | 10- 0 | 10- 5 | 10-10 | 11- 3 | 11- 8 | 12- 1 | 12- 6 |
| 5⅛ | 8-11⅝ | 9- 4¾ | 9- 9⅞ | 10- 3 | 10- 8⅛ | 11- 1¼ | 11- 6⅜ | 11-11½ | 12- 4⅝ | 12- 9¾ |
| 5¼ | 9- 2¼ | 9- 7½ | 10- 0¾ | 10- 6 | 10-11¼ | 11- 4½ | 11- 9¾ | 12- 3 | 12- 8¼ | 13- 1½ |
| 5⅜ | 9- 4⅞ | 9-10¼ | 10- 3⅝ | 10- 9 | 11- 2⅜ | 11- 7¾ | 12- 1⅛ | 12- 6½ | 12-11⅞ | 13- 5¼ |
| 5½ | 9- 7½ | 10- 1 | 10- 6½ | 11- 0 | 11- 5½ | 11-11 | 12- 4½ | 12-10 | 13- 3½ | 13- 9 |
| 5⅝ | 9-10⅛ | 10- 3¾ | 10- 9⅜ | 11- 3 | 11- 8⅝ | 12- 2¼ | 12- 7⅝ | 13- 1½ | 13- 7⅛ | 14- 0¾ |
| 5¾ | 10- 0¾ | 10- 6¼ | 11- 0¼ | 11- 6 | 11-11¾ | 12- 5½ | 12-11¼ | 13- 5 | 13-10¾ | 14- 4½ |
| 5⅞ | 10- 3⅜ | 10- 9¼ | 11- 3⅛ | 11- 9 | 12- 2⅞ | 12- 8¾ | 13- 2⅝ | 13- 8½ | 14- 2⅜ | 14- 8¼ |
| 6 | 10- 6 | 11- 0 | 11- 6 | 12- 0 | 12- 6 | 13- 0 | 13- 6 | 14- 0 | 14- 6 | 15- 0 |

# MULTIPLICATION TABLE FOR SPACING OF LATTICE BARS

| No. Spaces | 6" | 6 1/8" | 6 1/4" | 6 3/8" | 6 1/2" | 6 5/8" | 6 3/4" | 6 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 1–0 | 1– 0 1/4 | 1– 0 1/2 | 1– 0 3/4 | 1– 1 | 1– 1 1/4 | 1– 1 1/2 | 1– 1 3/4 |
| 3 | 1–6 | 1– 6 3/8 | 1– 6 3/4 | 1– 7 1/8 | 1– 7 1/2 | 1– 7 7/8 | 1– 8 1/4 | 1– 8 5/8 |
| 4 | 2–0 | 2– 0 1/2 | 2– 1 | 2– 1 1/2 | 2– 2 | 2– 2 1/2 | 2– 3 | 2– 3 1/2 |
| 5 | 2–6 | 2– 6 5/8 | 2– 7 1/4 | 2– 7 7/8 | 2– 8 1/2 | 2– 9 1/8 | 2– 9 3/4 | 2–10 3/8 |
| 6 | 3–0 | 3– 0 3/4 | 3– 1 1/2 | 3– 2 1/4 | 3– 3 | 3– 3 3/4 | 3– 4 1/2 | 3– 5 1/4 |
| 7 | 3–6 | 3– 6 7/8 | 3– 7 3/4 | 3– 8 5/8 | 3– 9 1/2 | 3–10 3/8 | 3–11 1/4 | 4– 0 1/8 |
| 8 | 4–0 | 4– 1 | 4– 2 | 4– 3 | 4– 4 | 4– 5 | 4– 6 | 4– 7 |
| 9 | 4–6 | 4– 7 1/8 | 4– 8 1/4 | 4– 9 3/8 | 4–10 1/2 | 4–11 5/8 | 5– 0 3/4 | 5– 1 7/8 |
| 10 | 5–0 | 5– 1 1/4 | 5– 2 1/2 | 5– 3 3/4 | 5– 5 | 5– 6 1/4 | 5– 7 1/2 | 5– 8 3/4 |
| 11 | 5–6 | 5– 7 3/8 | 5– 8 3/4 | 5–10 1/8 | 5–11 1/2 | 6– 0 7/8 | 6– 2 1/4 | 6– 3 5/8 |
| 12 | 6–0 | 6– 1 1/2 | 6– 3 | 6– 4 1/2 | 6– 6 | 6– 7 1/2 | 6– 9 | 6–10 1/2 |
| 13 | 6–6 | 6– 7 5/8 | 6– 9 1/4 | 6–10 7/8 | 7– 0 1/2 | 7– 2 1/8 | 7– 3 3/4 | 7– 5 3/8 |
| 14 | 7–0 | 7– 1 3/4 | 7– 3 1/2 | 7– 5 1/4 | 7– 7 | 7– 8 3/4 | 7–10 1/2 | 8– 0 1/4 |
| 15 | 7–6 | 7– 7 7/8 | 7– 9 3/4 | 7–11 5/8 | 8– 1 1/2 | 8– 3 3/8 | 8– 5 1/4 | 8– 7 1/8 |
| 16 | 8–0 | 8– 2 | 8– 4 | 8– 6 | 8– 8 | 8–10 | 9– 0 | 9– 2 |
| 17 | 8–6 | 8– 8 1/8 | 8–10 1/4 | 9– 0 3/8 | 9– 2 1/2 | 9– 4 5/8 | 9– 6 3/4 | 9– 8 7/8 |
| 18 | 9–0 | 9– 2 1/4 | 9– 4 1/2 | 9– 6 3/4 | 9– 9 | 9–11 1/4 | 10– 1 1/2 | 10– 3 3/4 |
| 19 | 9–6 | 9– 8 3/8 | 9–10 3/4 | 10– 1 1/8 | 10– 3 1/2 | 10– 5 7/8 | 10– 8 1/4 | 10–10 5/8 |
| 20 | 10–0 | 10– 2 1/2 | 10– 5 | 10– 7 1/2 | 10–10 | 11– 0 1/2 | 11– 3 | 11– 5 1/2 |

| No. Spaces | 7" | 7 1/8" | 7 1/4" | 7 3/8" | 7 1/2" | 7 5/8" | 7 3/4" | 7 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 1– 2 | 1– 2 1/4 | 1– 2 1/2 | 1– 2 3/4 | 1– 3 | 1– 3 1/4 | 1– 3 1/2 | 1– 3 3/4 |
| 3 | 1– 9 | 1– 9 3/8 | 1– 9 3/4 | 1–10 1/8 | 1–10 1/2 | 1–10 7/8 | 1–11 1/4 | 1–11 5/8 |
| 4 | 2– 4 | 2– 4 1/2 | 2– 5 | 2– 5 1/2 | 2– 6 | 2– 6 1/2 | 2– 7 | 2– 7 1/2 |
| 5 | 2–11 | 2–11 5/8 | 3– 0 1/4 | 3– 0 7/8 | 3– 1 1/2 | 3– 2 1/8 | 3– 2 3/4 | 3– 3 3/8 |
| 6 | 3– 6 | 3– 6 3/4 | 3– 7 1/2 | 3– 8 1/4 | 3– 9 | 3– 9 3/4 | 3–10 1/2 | 3–11 1/4 |
| 7 | 4– 1 | 4– 1 7/8 | 4– 2 3/4 | 4– 3 5/8 | 4– 4 1/2 | 4– 5 3/8 | 4– 6 1/4 | 4– 7 1/8 |
| 8 | 4– 8 | 4– 9 | 4–10 | 4–11 | 5– 0 | 5– 1 | 5– 2 | 5– 3 |
| 9 | 5– 3 | 5– 4 1/8 | 5– 5 1/4 | 5– 6 3/8 | 5– 7 1/2 | 5– 8 5/8 | 5– 9 3/4 | 5–10 7/8 |
| 10 | 5–10 | 5–11 1/4 | 6– 0 1/2 | 6– 1 3/4 | 6– 3 | 6– 4 1/4 | 6– 5 1/2 | 6– 6 3/4 |
| 11 | 6– 5 | 6– 6 3/8 | 6– 7 3/4 | 6– 9 1/8 | 6–10 1/2 | 6–11 7/8 | 7– 1 1/4 | 7– 2 5/8 |
| 12 | 7– 0 | 7– 1 1/2 | 7– 3 | 7– 4 1/2 | 7– 6 | 7– 7 1/2 | 7– 9 | 7–10 1/2 |
| 13 | 7– 7 | 7– 8 5/8 | 7–10 1/4 | 7–11 7/8 | 8– 1 1/2 | 8– 3 1/8 | 8– 4 3/4 | 8– 6 3/8 |
| 14 | 8– 2 | 8– 3 3/4 | 8– 5 1/2 | 8– 7 1/4 | 8– 9 | 8–10 3/8 | 9– 0 1/2 | 9– 2 1/4 |
| 15 | 8– 9 | 8–10 7/8 | 9– 0 3/4 | 9– 2 5/8 | 9– 4 1/2 | 9– 6 3/8 | 9– 8 1/4 | 9–10 1/8 |
| 16 | 9– 4 | 9– 6 | 9– 8 | 9–10 | 10– 0 | 10– 2 | 10– 4 | 10– 6 |
| 17 | 9–11 | 10– 1 1/8 | 10– 3 1/4 | 10– 5 3/8 | 10– 7 1/2 | 10– 9 5/8 | 10–11 3/4 | 11– 1 7/8 |
| 18 | 10– 6 | 10– 8 1/4 | 10–10 1/2 | 11– 0 1/4 | 11– 3 | 11– 5 1/4 | 11– 7 1/2 | 11– 9 3/4 |
| 19 | 11– 1 | 11– 3 3/8 | 11– 5 3/4 | 11– 8 1/8 | 11–10 1/2 | 12– 0 7/8 | 12– 3 1/4 | 12– 5 5/8 |
| 20 | 11– 8 | 11–10 1/2 | 12– 1 | 12– 3 1/2 | 12– 6 | 12– 8 1/2 | 12–11 | 13– 1 1/2 |

# MULTIPLICATION TABLE FOR SPACING OF LATTICE BARS

| No. Spaces | 8″ | 8 1/8″ | 8 1/4″ | 8 3/8″ | 8 1/2″ | 8 5/8″ | 8 3/4″ | 8 7/8″ |
|---|---|---|---|---|---|---|---|---|
| 2 | 1–4 | 1– 4 1/4 | 1– 4 1/2 | 1– 4 3/4 | 1– 5 | 1– 5 1/4 | 1– 5 1/2 | 1– 5 3/4 |
| 3 | 2–0 | 2– 0 3/8 | 2– 0 3/4 | 2– 1 1/8 | 2– 1 1/2 | 2– 1 7/8 | 2– 2 1/4 | 2– 2 5/8 |
| 4 | 2–8 | 2– 8 1/2 | 2– 9 | 2– 9 1/2 | 2–10 | 2–10 1/2 | 2–11 | 2–11 1/2 |
| 5 | 3–4 | 3– 4 5/8 | 3– 5 1/4 | 3– 5 7/8 | 3– 6 1/2 | 3– 7 1/8 | 3– 7 3/4 | 3– 8 3/8 |
| 6 | 4–0 | 4– 0 3/4 | 4– 1 1/2 | 4– 2 1/4 | 4– 3 | 4– 3 3/4 | 4– 4 1/2 | 4– 5 1/4 |
| 7 | 4–8 | 4– 8 7/8 | 4– 9 3/4 | 4–10 5/8 | 4–11 1/2 | 5– 0 3/8 | 5– 1 1/4 | 5– 2 1/8 |
| 8 | 5–4 | 5– 5 | 5– 6 | 5– 7 | 5– 8 | 5– 9 | 5–10 | 5–11 |
| 9 | 6–0 | 6– 1 1/8 | 6– 2 1/4 | 6– 3 3/8 | 6– 4 1/2 | 6– 5 5/8 | 6– 6 3/4 | 6– 7 7/8 |
| 10 | 6–8 | 6– 9 1/4 | 6–10 1/2 | 6–11 3/4 | 7– 1 | 7– 2 1/4 | 7– 3 1/2 | 7– 4 3/4 |
| 11 | 7–4 | 7– 5 3/8 | 7– 6 3/4 | 7– 8 1/8 | 7– 9 1/2 | 7–10 7/8 | 8– 0 1/4 | 8– 1 5/8 |
| 12 | 8–0 | 8– 1 1/2 | 8– 3 | 8– 4 1/2 | 8– 6 | 8– 7 1/2 | 8– 9 | 8–10 1/2 |
| 13 | 8–8 | 8– 9 5/8 | 8–11 1/4 | 9– 0 7/8 | 9– 2 1/2 | 9– 4 1/8 | 9– 5 3/4 | 9– 7 3/8 |
| 14 | 9–4 | 9– 5 3/4 | 9– 7 1/2 | 9– 9 1/4 | 9–11 | 10– 0 3/4 | 10– 2 1/2 | 10– 4 1/4 |
| 15 | 10–0 | 10– 1 7/8 | 10– 3 3/4 | 10– 5 5/8 | 10– 7 1/2 | 10– 9 3/8 | 10–11 1/4 | 11– 1 1/8 |
| 16 | 10–8 | 10–10 | 11– 0 | 11–2 | 11– 4 | 11– 6 | 11– 8 | 11–10 |
| 17 | 11–4 | 11– 6 1/8 | 11– 8 1/4 | 11–10 3/8 | 12– 0 1/2 | 12– 2 5/8 | 12–4 3/4 | 12– 6 7/8 |
| 18 | 12–0 | 12– 2 1/4 | 12– 4 1/2 | 12– 6 3/4 | 12– 9 | 12–11 1/4 | 13– 1 1/2 | 13– 3 3/4 |
| 19 | 12–8 | 12–10 3/8 | 13– 0 3/4 | 13– 3 1/8 | 13– 5 1/2 | 13– 7 7/8 | 13–10 1/4 | 14– 0 5/8 |
| 20 | 13–4 | 13– 6 1/2 | 13– 9 | 13–11 1/2 | 14– 2 | 14– 4 1/2 | 14– 7 | 14– 9 1/2 |

| No. Spaces | 9″ | 9 1/8″ | 9 1/4″ | 9 3/8″ | 9 1/2″ | 9 5/8″ | 9 3/4″ | 9 7/8″ |
|---|---|---|---|---|---|---|---|---|
| 2 | 1–6 | 1– 6 1/4 | 1– 6 1/2 | 1– 6 3/4 | 1– 7 | 1– 7 1/4 | 1– 7 1/2 | 1– 7 3/4 |
| 3 | 2–3 | 2– 3 3/8 | 2– 3 3/4 | 2– 4 1/8 | 2– 4 1/2 | 2– 4 7/8 | 2– 5 1/4 | 2– 5 5/8 |
| 4 | 3–0 | 3– 0 1/2 | 3– 1 | 3– 1 1/2 | 3– 2 | 3– 2 1/2 | 3– 3 | 3– 3 1/2 |
| 5 | 3–9 | 3– 9 5/8 | 3–10 1/4 | 3–10 7/8 | 3–11 1/2 | 4– 0 1/8 | 4– 0 3/4 | 4– 1 3/8 |
| 6 | 4–6 | 4– 6 3/4 | 4– 7 1/2 | 4– 8 1/4 | 4– 9 | 4– 9 3/4 | 4–10 1/2 | 4–11 1/4 |
| 7 | 5–3 | 5– 3 7/8 | 5– 4 3/4 | 5– 5 5/8 | 5– 6 1/2 | 5– 7 3/8 | 5– 8 1/4 | 5– 9 1/8 |
| 8 | 6–0 | 6– 1 | 6– 2 | 6– 3 | 6– 4 | 6– 5 | 6– 6 | 6– 7 |
| 9 | 6–9 | 6–10 1/8 | 6–11 1/4 | 7– 0 3/8 | 7– 1 1/2 | 7– 2 5/8 | 7– 3 3/4 | 7– 4 7/8 |
| 10 | 7–6 | 7– 7 1/4 | 7– 8 1/2 | 7– 9 3/4 | 7–11 | 8– 0 1/4 | 8– 1 1/2 | 8– 2 3/4 |
| 11 | 8–3 | 8– 4 3/8 | 8– 5 3/4 | 8– 7 1/8 | 8– 8 1/2 | 8– 9 7/8 | 8–11 1/4 | 9– 0 5/8 |
| 12 | 9–0 | 9– 1 1/2 | 9– 3 | 9– 4 1/2 | 9– 6 | 9– 7 1/2 | 9– 9 | 9–10 1/2 |
| 13 | 9–9 | 9–10 5/8 | 10– 0 1/4 | 10– 1 7/8 | 10– 3 1/2 | 10– 5 1/8 | 10– 6 3/4 | 10– 8 3/8 |
| 14 | 10–6 | 10– 7 3/4 | 10– 9 1/2 | 10–11 1/4 | 11– 1 | 11– 2 3/4 | 11– 4 1/2 | 11– 6 1/4 |
| 15 | 11–3 | 11– 4 7/8 | 11– 6 3/4 | 11– 8 5/8 | 11–10 1/2 | 12– 0 3/8 | 12– 2 1/4 | 12– 4 1/8 |
| 16 | 12–0 | 12– 2 | 12– 4 | 12– 6 | 12– 8 | 12–10 | 13– 0 | 13– 2 |
| 17 | 12–9 | 12–11 1/8 | 13– 1 1/4 | 13– 3 3/8 | 13– 5 1/2 | 13– 7 5/8 | 13– 9 3/4 | 13–11 7/8 |
| 18 | 13–6 | 13– 8 1/4 | 13–10 1/2 | 14– 0 3/4 | 14– 3 | 14– 5 1/4 | 14– 7 1/2 | 14– 9 3/4 |
| 19 | 14–3 | 14– 5 3/8 | 14– 7 3/4 | 14–10 1/8 | 15– 0 1/2 | 15– 2 7/8 | 15– 5 1/4 | 15– 7 5/8 |
| 20 | 15–0 | 15– 2 1/2 | 15– 5 | 15– 7 1/2 | 15–10 | 16– 0 1/2 | 16– 3 | 16– 5 1/2 |

# MULTIPLICATION TABLE FOR SPACING OF LATTICE BARS

| No. Spaces | 10″ | 10 1/8″ | 10 1/4″ | 10 3/8″ | 10 1/2″ | 10 5/8″ | 10 3/4″ | 10 7/8″ |
|---|---|---|---|---|---|---|---|---|
| 2 | 1– 8 | 1– 8 1/4 | 1– 8 1/2 | 1– 8 3/4 | 1– 9 | 1– 9 1/4 | 1– 9 1/2 | 1– 9 3/4 |
| 3 | 2– 6 | 2– 6 3/8 | 2– 6 3/4 | 2– 7 1/8 | 2– 7 1/2 | 2– 7 7/8 | 2– 8 1/4 | 2– 8 5/8 |
| 4 | 3– 4 | 3– 4 1/2 | 3– 5 | 3– 5 1/2 | 3– 6 | 3– 6 1/2 | 3– 7 | 3– 7 1/2 |
| 5 | 4– 2 | 4– 2 5/8 | 4– 3 1/4 | 4– 3 7/8 | 4– 4 1/2 | 4– 5 1/8 | 4– 5 3/4 | 4– 6 3/8 |
| 6 | 5– 0 | 5– 0 3/4 | 5– 1 1/2 | 5– 2 1/4 | 5– 3 | 5– 3 3/4 | 5– 4 1/2 | 5– 5 1/4 |
| 7 | 5–10 | 5–10 7/8 | 5–11 3/4 | 6– 0 5/8 | 6– 1 1/2 | 6– 2 3/8 | 6– 3 1/4 | 6– 4 1/8 |
| 8 | 6– 8 | 6– 9 | 6–10 | 6–11 | 7– 0 | 7– 1 | 7– 2 | 7– 3 |
| 9 | 7– 6 | 7– 7 1/8 | 7– 8 1/4 | 7– 9 3/8 | 7–10 1/2 | 7–11 5/8 | 8– 0 3/4 | 8– 1 7/8 |
| 10 | 8– 4 | 8– 5 1/4 | 8– 6 1/2 | 8– 7 3/4 | 8– 9 | 8–10 1/4 | 8–11 1/2 | 9– 0 3/4 |
| 11 | 9– 2 | 9– 3 3/8 | 9– 4 3/4 | 9– 6 1/8 | 9– 7 1/2 | 9– 8 7/8 | 9–10 1/4 | 9–11 5/8 |
| 12 | 10– 0 | 10– 1 1/2 | 10– 3 | 10– 4 1/2 | 10– 6 | 10– 7 1/2 | 10– 9 | 10–10 1/2 |
| 13 | 10–10 | 10–11 5/8 | 11– 1 1/4 | 11– 2 7/8 | 11– 4 1/2 | 11– 6 1/8 | 11– 7 3/4 | 11– 9 3/8 |
| 14 | 11– 8 | 11– 9 3/4 | 11–11 1/2 | 12– 1 1/4 | 12– 3 | 12– 4 3/8 | 12– 6 1/2 | 12– 8 1/4 |
| 15 | 12– 6 | 12– 7 7/8 | 12– 9 3/4 | 12–11 5/8 | 13– 1 1/2 | 13– 3 3/8 | 13– 5 1/4 | 13– 7 1/8 |
| 16 | 13– 4 | 13– 6 | 13– 8 | 13–10 | 14– 0 | 14– 2 | 14– 4 | 14– 6 |
| 17 | 14– 2 | 14– 4 1/8 | 14– 6 1/4 | 14– 8 3/8 | 14–10 1/2 | 15– 0 5/8 | 15– 2 3/4 | 15– 4 7/8 |
| 18 | 15– 0 | 15– 2 1/4 | 15– 4 1/2 | 15– 6 3/4 | 15– 9 | 15–11 1/4 | 16– 1 1/2 | 16– 3 3/4 |
| 19 | 15–10 | 16– 0 3/8 | 16– 2 3/4 | 16– 5 1/8 | 16– 7 1/2 | 16– 9 7/8 | 17– 0 1/4 | 17– 2 5/8 |
| 20 | 16– 8 | 16–10 1/2 | 17– 1 | 17– 3 1/2 | 17– 6 | 17– 8 1/2 | 17–11 | 18– 1 1/2 |

| No. Spaces | 11″ | 11 1/8″ | 11 1/4″ | 11 3/8″ | 11 1/2″ | 11 5/8″ | 11 3/4″ | 11 7/8″ |
|---|---|---|---|---|---|---|---|---|
| 2 | 1–10 | 1–10 1/4 | 1–10 1/2 | 1–10 3/4 | 1–11 | 1–11 1/4 | 1–11 1/2 | 1–11 3/4 |
| 3 | 2– 9 | 2– 9 3/8 | 2– 9 3/4 | 2–10 1/8 | 2–10 1/2 | 2–10 7/8 | 2–11 1/4 | 2–11 5/8 |
| 4 | 3– 8 | 3– 8 1/2 | 3– 9 | 3– 9 1/2 | 3–10 | 3–10 1/2 | 3–11 | 3–11 1/2 |
| 5 | 4– 7 | 4– 7 5/8 | 4– 8 1/4 | 4– 8 7/8 | 4– 9 1/2 | 4–10 1/8 | 4–10 3/4 | 4–11 3/8 |
| 6 | 5– 6 | 5– 6 3/4 | 5– 7 1/2 | 5– 8 1/4 | 5– 9 | 5– 9 3/4 | 5–10 1/2 | 5–11 1/4 |
| 7 | 6– 5 | 6– 5 7/8 | 6– 6 3/4 | 6– 7 5/8 | 6– 8 1/2 | 6– 9 3/8 | 6–10 1/4 | 6–11 1/8 |
| 8 | 7– 4 | 7– 5 | 7– 6 | 7– 7 | 7– 8 | 7– 9 | 7–10 | 7–11 |
| 9 | 8– 3 | 8– 4 1/8 | 8– 5 1/4 | 8– 6 3/8 | 8– 7 1/2 | 8– 8 5/8 | 8– 9 3/4 | 8–10 7/8 |
| 10 | 9– 2 | 9– 3 1/4 | 9– 4 1/2 | 9– 5 3/4 | 9– 7 | 9– 8 1/4 | 9– 9 1/2 | 9–10 3/4 |
| 11 | 10– 1 | 10– 2 3/8 | 10– 3 3/4 | 10– 5 1/8 | 10– 6 1/2 | 10– 7 7/8 | 10– 9 1/4 | 10–10 5/8 |
| 12 | 11– 0 | 11– 1 1/2 | 11– 3 | 11– 4 1/2 | 11– 6 | 11– 7 1/2 | 11– 9 | 11–10 1/2 |
| 13 | 11–11 | 12– 0 5/8 | 12– 2 1/4 | 12– 3 7/8 | 12– 5 1/2 | 12– 7 1/8 | 12– 8 3/4 | 12–10 3/8 |
| 14 | 12–10 | 12–11 3/4 | 13– 1 1/2 | 13– 3 1/4 | 13– 5 | 13– 6 3/8 | 13– 8 1/2 | 13–10 1/4 |
| 15 | 13– 9 | 13–10 7/8 | 14– 0 3/4 | 14– 2 5/8 | 14– 4 1/2 | 14– 6 3/8 | 14– 8 1/4 | 14–10 1/8 |
| 16 | 14– 8 | 14–10 | 15– 0 | 15– 2 | 15– 4 | 15– 6 | 15– 8 | 15–10 |
| 17 | 15– 7 | 15– 9 1/8 | 15–11 1/4 | 16– 1 3/8 | 16– 3 1/2 | 16– 5 5/8 | 16– 7 3/4 | 16– 9 7/8 |
| 18 | 16– 6 | 16– 8 1/4 | 16–10 1/2 | 17– 0 3/4 | 17– 3 | 17– 5 1/4 | 17– 7 1/2 | 17– 9 3/4 |
| 19 | 17– 5 | 17– 7 3/8 | 17– 9 3/4 | 18– 0 1/8 | 18– 2 1/2 | 18– 4 7/8 | 18– 7 1/4 | 18– 9 5/8 |
| 20 | 18– 4 | 18– 6 1/2 | 18– 9 | 18–11 1/2 | 19– 2 | 19– 4 1/2 | 19– 7 | 19– 9 1/2 |

# MULTIPLICATION TABLE FOR SPACING OF LATTICE BARS

| No. Spaces | 1' 0" | 1' 0 1/8" | 1' 0 1/4" | 1' 0 3/8" | 1' 0 1/2" | 1' 0 5/8" | 1' 0 3/4" | 1' 0 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 2–0 | 2–0 1/4 | 2–0 1/2 | 2–0 3/4 | 2– 1 | 2– 1 1/4 | 2– 1 1/2 | 2– 1 3/4 |
| 3 | 3–0 | 3–0 3/8 | 3–0 3/4 | 3–1 1/8 | 3– 1 1/2 | 3– 1 7/8 | 3– 2 1/4 | 3– 2 5/8 |
| 4 | 4–0 | 4–0 1/2 | 4–1 | 4–1 1/2 | 4– 2 | 4– 2 1/2 | 4– 3 | 4– 3 1/2 |
| 5 | 5–0 | 5–0 5/8 | 5–1 1/4 | 5–1 7/8 | 5– 2 1/2 | 5– 3 1/8 | 5– 3 3/4 | 5– 4 3/8 |
| 6 | 6–0 | 6–0 3/4 | 6–1 1/2 | 6–2 1/4 | 6– 3 | 6– 3 3/4 | 6– 4 1/2 | 6– 5 1/4 |
| 7 | 7–0 | 7–0 7/8 | 7–1 3/4 | 7–2 5/8 | 7– 3 1/2 | 7– 4 3/8 | 7– 5 1/4 | 7– 6 1/8 |
| 8 | 8–0 | 8–1 | 8–2 | 8–3 | 8– 4 | 8– 5 | 8– 6 | 8– 7 |
| 9 | 9–0 | 9–1 1/8 | 9–2 1/4 | 9–3 3/8 | 9– 4 1/2 | 9– 5 5/8 | 9– 6 3/4 | 9– 7 7/8 |
| 10 | 10–0 | 10–1 1/4 | 10–2 1/2 | 10–3 3/4 | 10– 5 | 10– 6 1/4 | 10– 7 1/2 | 10– 8 3/4 |
| 11 | 11–0 | 11–1 3/8 | 11–2 3/4 | 11–4 1/8 | 11– 5 1/2 | 11– 6 7/8 | 11– 8 1/4 | 11– 9 5/8 |
| 12 | 12–0 | 12–1 1/2 | 12–3 | 12–4 1/2 | 12– 6 | 12– 7 1/2 | 12– 9 | 12–10 1/2 |
| 13 | 13–0 | 13–1 5/8 | 13–3 1/4 | 13–4 7/8 | 13– 6 1/2 | 13– 8 1/8 | 13– 9 3/4 | 13–11 3/8 |
| 14 | 14–0 | 14–1 3/4 | 14–3 1/2 | 14–5 1/4 | 14– 7 | 14– 8 3/4 | 14–10 1/2 | 15– 0 1/4 |
| 15 | 15–0 | 15–1 7/8 | 15–3 3/4 | 15–5 5/8 | 15– 7 1/2 | 15– 9 3/8 | 15–11 1/4 | 16– 1 1/8 |
| 16 | 16–0 | 16–2 | 16–4 | 16–6 | 16– 8 | 16–10 | 17– 0 | 17– 2 |
| 17 | 17–0 | 17–2 1/8 | 17–4 1/4 | 17–6 3/8 | 17– 8 1/2 | 17–10 5/8 | 18– 0 3/4 | 18– 2 7/8 |
| 18 | 18–0 | 18–2 1/4 | 18–4 1/2 | 18–6 3/4 | 18– 9 | 18–11 1/4 | 19– 1 1/2 | 19– 3 3/4 |
| 19 | 19–0 | 19–2 3/8 | 19–4 3/4 | 19–7 1/8 | 19– 9 1/2 | 19–11 7/8 | 20– 2 1/4 | 20– 4 5/8 |
| 20 | 20–0 | 20–2 1/2 | 20–5 | 20–7 1/2 | 20–10 | 21– 0 1/2 | 21– 3 | 21– 5 1/2 |

| No. Spaces | 1' 1" | 1' 1 1/8" | 1' 1 1/4" | 1' 1 3/8" | 1' 1 1/2" | 1' 1 5/8" | 1' 1 3/4" | 1' 1 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 2– 2 | 2– 2 1/4 | 2– 2 1/2 | 2– 2 3/4 | 2– 3 | 2– 3 1/4 | 2– 3 1/2 | 2– 3 3/4 |
| 3 | 3– 3 | 3– 3 3/8 | 3– 3 3/4 | 3– 4 1/8 | 3– 4 1/2 | 3– 4 7/8 | 3– 5 1/4 | 3– 5 5/8 |
| 4 | 4– 4 | 4– 4 1/2 | 4– 5 | 4– 5 1/2 | 4– 6 | 4– 6 1/2 | 4– 7 | 4– 7 1/2 |
| 5 | 5– 5 | 5– 5 5/8 | 5– 6 1/4 | 5– 6 7/8 | 5– 7 1/2 | 5– 8 1/8 | 5– 8 3/4 | 5– 9 3/8 |
| 6 | 6– 6 | 6– 6 3/4 | 6– 7 1/2 | 6– 8 1/4 | 6– 9 | 6– 9 3/4 | 6–10 1/2 | 6–11 1/4 |
| 7 | 7– 7 | 7– 7 7/8 | 7– 8 3/4 | 7– 9 5/8 | 7–10 1/2 | 7–11 3/8 | 8– 0 1/4 | 8– 1 1/8 |
| 8 | 8– 8 | 8– 9 | 8–10 | 8–11 | 9– 0 | 9– 1 | 9– 2 | 9– 3 |
| 9 | 9– 9 | 9–10 1/8 | 9–11 1/4 | 10– 0 3/8 | 10– 1 1/2 | 10– 2 5/8 | 10– 3 3/4 | 10– 4 7/8 |
| 10 | 10–10 | 10–11 1/4 | 11– 0 1/2 | 11– 1 3/4 | 11– 3 | 11– 4 1/4 | 11– 5 1/2 | 11– 6 3/4 |
| 11 | 11–11 | 12– 0 3/8 | 12– 1 3/4 | 12– 3 1/8 | 12– 4 1/2 | 12– 5 7/8 | 12– 7 1/4 | 12– 8 5/8 |
| 12 | 13– 0 | 13– 1 1/2 | 13– 3 | 13– 4 1/2 | 13– 6 | 13– 7 1/2 | 13– 9 | 13–10 1/2 |
| 13 | 14– 1 | 14– 2 5/8 | 14– 4 1/4 | 14– 5 7/8 | 14– 7 1/2 | 14– 9 1/8 | 14–10 3/4 | 15– 0 3/8 |
| 14 | 15– 2 | 15– 3 3/4 | 15– 5 1/2 | 15– 7 1/4 | 15– 9 | 15–10 3/4 | 16– 0 1/2 | 16– 2 1/4 |
| 15 | 16– 3 | 16– 4 7/8 | 16– 6 3/4 | 16– 8 5/8 | 16–10 1/2 | 17– 0 3/8 | 17– 2 1/4 | 17– 4 1/8 |
| 16 | 17– 4 | 17– 6 | 17– 8 | 17–10 | 18– 0 | 18– 2 | 18– 4 | 18– 6 |
| 17 | 18– 5 | 18– 7 1/8 | 18– 9 1/4 | 18–11 3/8 | 19– 1 1/2 | 19– 3 5/8 | 19– 5 3/4 | 19– 7 7/8 |
| 18 | 19– 6 | 19– 8 1/4 | 19–10 1/2 | 20– 0 3/4 | 20– 3 | 20– 5 1/4 | 20– 7 1/2 | 20– 9 3/4 |
| 19 | 20– 7 | 20– 9 3/8 | 20–11 3/4 | 21– 2 1/8 | 21– 4 1/2 | 21– 6 7/8 | 21– 9 1/4 | 21–11 5/8 |
| 20 | 21– 8 | 21–10 1/2 | 22– 1 | 22– 3 1/2 | 22– 6 | 22– 8 1/2 | 22–11 | 23– 1 1/2 |

## MULTIPLICATION TABLE FOR SPACING OF LATTICE BARS

| No. Spaces | 1' 2" | 1' 2 1/8" | 1' 2 1/4" | 1' 2 3/8" | 1' 2 1/2" | 1' 2 5/8" | 1' 2 3/4" | 1' 2 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 2- 4 | 2- 4 1/4 | 2- 4 1/2 | 2- 4 3/4 | 2- 5 | 2- 5 1/4 | 2- 5 1/2 | 2- 5 3/4 |
| 3 | 3- 6 | 3- 6 3/8 | 3- 6 3/4 | 3- 7 1/8 | 3- 7 1/2 | 3- 7 7/8 | 3- 8 1/4 | 3- 8 5/8 |
| 4 | 4- 8 | 4- 8 1/2 | 4- 9 | 4- 9 1/2 | 4-10 | 4-10 1/2 | 4-11 | 4-11 1/2 |
| 5 | 5-10 | 5-10 5/8 | 5-11 1/4 | 5-11 7/8 | 6- 0 1/2 | 6- 1 1/8 | 6- 1 3/4 | 6- 2 3/8 |
| 6 | 7- 0 | 7- 0 3/4 | 7- 1 1/2 | 7- 2 1/4 | 7- 3 | 7- 3 3/4 | 7- 4 1/2 | 7- 5 1/4 |
| 7 | 8- 2 | 8- 2 7/8 | 8- 3 3/4 | 8- 4 5/8 | 8- 5 1/2 | 8- 6 3/8 | 8- 7 1/4 | 8- 8 1/8 |
| 8 | 9- 4 | 9- 5 | 9- 6 | 9- 7 | 9- 8 | 9- 9 | 9-10 | 9-11 |
| 9 | 10- 6 | 10- 7 1/8 | 10- 8 1/4 | 10- 9 3/8 | 10-10 1/2 | 10-11 5/8 | 11- 0 3/4 | 11- 1 7/8 |
| 10 | 11- 8 | 11- 9 1/4 | 11-10 1/2 | 11-11 3/4 | 12- 1 | 12- 2 1/4 | 12- 3 1/2 | 12- 4 3/4 |
| 11 | 12-10 | 12-11 3/8 | 13- 0 3/4 | 13- 2 1/8 | 13- 3 1/4 | 13- 4 7/8 | 13- 6 1/4 | 13- 7 5/8 |
| 12 | 14- 0 | 14- 1 1/2 | 14- 3 | 14- 4 1/2 | 14- 6 | 14- 7 1/2 | 14- 9 | 14-10 1/2 |
| 13 | 15- 2 | 15- 3 5/8 | 15- 5 1/4 | 15- 6 7/8 | 15- 8 1/2 | 15-10 1/8 | 15-11 3/4 | 16- 1 3/8 |
| 14 | 16- 4 | 16- 5 3/4 | 16- 7 1/2 | 16- 9 1/4 | 16-11 | 17- 0 3/4 | 17- 2 1/2 | 17- 4 1/4 |
| 15 | 17- 6 | 17- 7 7/8 | 17- 9 3/4 | 17-11 5/8 | 18- 1 1/2 | 18- 3 3/8 | 18- 5 1/4 | 18- 7 1/8 |
| 16 | 18- 8 | 18-10 | 19- 0 | 19- 2 | 19- 4 | 19- 6 | 19- 8 | 19-10 |
| 17 | 19-10 | 20- 0 1/8 | 20- 2 1/4 | 20- 4 3/8 | 20- 6 1/2 | 20- 8 5/8 | 20-10 3/4 | 21- 0 7/8 |
| 18 | 21- 0 | 21- 2 1/4 | 21- 4 1/2 | 21- 6 3/4 | 21- 9 | 21-11 1/4 | 22- 1 1/2 | 22- 3 3/4 |
| 19 | 22- 2 | 22- 4 3/8 | 22- 6 3/4 | 22- 9 1/8 | 22-11 1/2 | 23- 1 7/8 | 23- 4 1/4 | 23- 6 5/8 |
| 20 | 23- 4 | 23- 6 1/2 | 23- 9 | 23-11 1/2 | 24- 2 | 24- 4 1/2 | 24- 7 | 24- 9 1/2 |

| No. Spaces | 1' 3" | 1' 3 1/8" | 1' 3 1/4" | 1' 3 3/8" | 1' 3 1/2" | 1' 3 5/8" | 1' 3 3/4" | 1' 3 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 2- 6 | 2- 6 1/4 | 2- 6 1/2 | 2- 6 3/4 | 2- 7 | 2- 7 1/4 | 2- 7 1/2 | 2- 7 3/4 |
| 3 | 3- 9 | 3- 9 3/8 | 3- 9 3/4 | 3-10 1/8 | 3-10 1/2 | 3-10 7/8 | 3-11 1/4 | 3-11 5/8 |
| 4 | 5- 0 | 5- 0 1/2 | 5- 1 | 5- 1 1/2 | 5- 2 | 5- 2 1/2 | 5- 3 | 5- 3 1/2 |
| 5 | 6- 3 | 6- 3 5/8 | 6- 4 1/4 | 6- 4 7/8 | 6- 5 1/2 | 6- 6 1/8 | 6- 6 3/4 | 6- 7 3/8 |
| 6 | 7- 6 | 7- 6 3/4 | 7- 7 1/2 | 7- 8 1/4 | 7- 9 | 7- 9 3/4 | 7-10 1/2 | 7-11 1/4 |
| 7 | 8- 9 | 8- 9 7/8 | 8-10 3/4 | 8-11 5/8 | 9- 0 1/2 | 9- 1 3/8 | 9- 2 1/4 | 9- 3 1/8 |
| 8 | 10- 0 | 10- 1 | 10- 2 | 10- 3 | 10- 4 | 10- 5 | 10- 6 | 10- 7 |
| 9 | 11- 3 | 11- 4 1/8 | 11- 5 1/4 | 11- 6 3/8 | 11- 7 1/2 | 11- 8 5/8 | 11- 9 3/4 | 11-10 7/8 |
| 10 | 12- 6 | 12- 7 1/4 | 12- 8 1/2 | 12- 9 3/4 | 12-11 | 13- 0 1/4 | 13- 1 1/2 | 13- 2 3/4 |
| 11 | 13- 9 | 13-10 3/8 | 13-11 3/4 | 14- 1 1/8 | 14- 2 1/2 | 14- 3 7/8 | 14- 5 1/4 | 14- 6 5/8 |
| 12 | 15- 0 | 15- 1 1/2 | 15- 3 | 15- 4 1/2 | 15- 6 | 15- 7 1/2 | 15- 9 | 15-10 1/2 |
| 13 | 16- 3 | 16- 4 5/8 | 16- 6 1/4 | 16- 7 7/8 | 16- 9 1/2 | 16-11 1/8 | 17- 0 3/4 | 17- 2 3/8 |
| 14 | 17- 6 | 17- 7 3/4 | 17- 9 1/2 | 17-11 1/4 | 18- 1 | 18- 2 3/4 | 18- 4 1/2 | 18- 6 1/4 |
| 15 | 18- 9 | 18-10 7/8 | 19- 0 3/4 | 19- 2 5/8 | 19- 4 1/2 | 19- 6 3/8 | 19- 8 1/4 | 19-10 1/8 |
| 16 | 20- 0 | 20- 2 | 20- 4 | 20- 6 | 20- 8 | 20-10 | 21- 0 | 21- 2 |
| 17 | 21- 3 | 21- 5 1/8 | 21- 7 1/4 | 21- 9 3/8 | 21-11 1/2 | 22- 1 5/8 | 22- 3 3/4 | 22- 5 7/8 |
| 18 | 22- 6 | 22- 8 1/4 | 22-10 1/2 | 23- 0 3/4 | 23- 3 | 23- 5 1/4 | 23- 7 1/2 | 23- 9 3/4 |
| 19 | 23- 9 | 23-11 3/8 | 24- 1 3/4 | 24- 4 1/8 | 24- 6 1/2 | 24- 8 7/8 | 24-11 1/4 | 25- 1 5/8 |
| 20 | 25- 0 | 25- 2 1/2 | 25- 5 | 25- 7 1/2 | 25-10 | 26- 0 1/2 | 26- 3 | 26- 5 1/2 |

| No. Spaces | 1' 4" | 1' 4 1/8" | 1' 4 1/4" | 1' 4 3/8" | 1' 4 1/2" | 1' 4 5/8" | 1' 4 3/4" | 1' 4 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 2–8 | 2– 8 1/4 | 2– 8 1/2 | 2– 8 3/4 | 2– 9 | 2– 9 1/4 | 2– 9 1/2 | 2– 9 3/4 |
| 3 | 4–0 | 4– 0 3/8 | 4– 0 3/4 | 4– 1 1/8 | 4– 1 1/2 | 4– 1 7/8 | 4– 2 1/4 | 4– 2 5/8 |
| 4 | 5–4 | 5– 4 1/2 | 5– 5 | 5– 5 1/2 | 5– 6 | 5– 6 1/2 | 5– 7 | 5– 7 1/2 |
| 5 | 6–8 | 6– 8 5/8 | 6– 9 1/4 | 6– 9 7/8 | 6–10 1/2 | 6–11 1/8 | 6–11 3/4 | 7– 0 3/8 |
| 6 | 8–0 | 8– 0 3/4 | 8– 1 1/2 | 8– 2 1/4 | 8– 3 | 8– 3 3/4 | 8– 4 1/2 | 8– 5 1/4 |
| 7 | 9–4 | 9– 4 7/8 | 9– 5 3/4 | 9– 6 5/8 | 9– 7 1/2 | 9– 8 3/8 | 9– 9 1/4 | 9–10 1/8 |
| 8 | 10–8 | 10– 9 | 10–10 | 10–11 | 11– 0 | 11– 1 | 11– 2 | 11– 3 |
| 9 | 12–0 | 12– 1 1/8 | 12– 2 1/4 | 12– 3 3/8 | 12– 4 1/2 | 12– 5 5/8 | 12– 6 3/4 | 12– 7 7/8 |
| 10 | 13–4 | 13– 5 1/4 | 13– 6 1/2 | 13– 7 3/4 | 13– 9 | 13–10 1/4 | 13–11 1/2 | 14– 0 3/4 |
| 11 | 14–8 | 14– 9 3/8 | 14–10 3/4 | 15– 0 1/8 | 15– 1 1/2 | 15– 2 7/8 | 15– 4 1/4 | 15– 5 5/8 |
| 12 | 16–0 | 16– 1 1/2 | 16– 3 | 16– 4 1/2 | 16– 6 | 16– 7 1/2 | 16– 9 | 16–10 1/2 |
| 13 | 17–4 | 17– 5 5/8 | 17– 7 1/4 | 17– 8 7/8 | 17–10 1/2 | 18– 0 1/8 | 18– 1 3/4 | 18– 3 3/8 |
| 14 | 18–8 | 18– 9 3/4 | 18–11 1/2 | 19– 1 1/4 | 19– 3 | 19– 4 3/4 | 19– 6 1/2 | 19– 8 1/4 |
| 15 | 20–0 | 20– 1 7/8 | 20– 3 3/4 | 20– 5 5/8 | 20– 7 1/2 | 20– 9 3/8 | 20–11 1/4 | 21– 1 1/8 |
| 16 | 21–4 | 21– 6 | 21– 8 | 21–10 | 22– 0 | 22– 2 | 22– 4 | 22– 6 |
| 17 | 22–8 | 22–10 1/8 | 23– 0 1/4 | 23– 2 3/8 | 23– 4 1/2 | 23– 6 5/8 | 23– 8 3/4 | 23–10 7/8 |
| 18 | 24–0 | 24– 2 1/4 | 24– 4 1/2 | 24– 6 3/4 | 24– 9 | 24–11 1/4 | 25– 1 1/2 | 25– 3 3/4 |
| 19 | 25–4 | 25– 6 3/8 | 25– 8 3/4 | 25–11 1/8 | 26– 1 1/2 | 26– 3 7/8 | 26– 6 1/4 | 26– 8 5/8 |
| 20 | 26–8 | 26–10 1/2 | 27– 1 | 27– 3 1/2 | 27– 6 | 27– 8 1/2 | 27–11 | 28– 1 1/2 |

| No. Spaces | 1' 5" | 1' 5 1/8" | 1' 5 1/4" | 1' 5 3/8" | 1' 5 1/2" | 1' 5 5/8" | 1' 5 3/4" | 1' 5 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 2–10 | 2–10 1/4 | 2–10 1/2 | 2–10 3/4 | 2–11 | 2–11 1/4 | 2–11 1/2 | 2–11 3/4 |
| 3 | 4– 3 | 4– 3 3/8 | 4– 3 3/4 | 4– 4 1/8 | 4– 4 1/2 | 4– 4 7/8 | 4– 5 1/4 | 4– 5 5/8 |
| 4 | 5– 8 | 5– 8 1/2 | 5– 9 | 5– 9 1/2 | 5–10 | 5–10 1/2 | 5–11 | 5–11 1/2 |
| 5 | 7– 1 | 7– 1 5/8 | 7– 2 1/4 | 7– 2 7/8 | 7– 3 1/2 | 7– 4 1/8 | 7– 4 3/4 | 7– 5 3/8 |
| 6 | 8– 6 | 8– 6 3/4 | 8– 7 1/2 | 8– 8 1/4 | 8– 9 | 8– 9 3/4 | 8–10 1/2 | 8–11 1/4 |
| 7 | 9–11 | 9–11 7/8 | 10– 0 3/4 | 10– 1 5/8 | 10– 2 1/2 | 10– 3 3/8 | 10– 4 1/4 | 10– 5 1/8 |
| 8 | 11– 4 | 11– 5 | 11– 6 | 11– 7 | 11– 8 | 11– 9 | 11–10 | 11–11 |
| 9 | 12– 9 | 12–10 1/8 | 12–11 1/4 | 13– 0 3/8 | 13– 1 1/2 | 13– 2 5/8 | 13– 3 3/4 | 13– 4 7/8 |
| 10 | 14– 2 | 14– 3 1/4 | 14– 4 1/2 | 14– 5 3/4 | 14– 7 | 14– 8 1/4 | 14– 9 1/2 | 14–10 3/4 |
| 11 | 15– 7 | 15– 8 3/8 | 15– 9 3/4 | 15–11 1/8 | 16– 0 1/2 | 16– 1 7/8 | 16– 3 1/4 | 16– 4 5/8 |
| 12 | 17– 0 | 17– 1 1/2 | 17– 3 | 17– 4 1/2 | 17– 6 | 17– 7 1/2 | 17– 9 | 17–10 1/2 |
| 13 | 18– 5 | 18– 6 5/8 | 18– 8 1/4 | 18– 9 7/8 | 18–11 1/2 | 19– 1 1/8 | 19– 2 3/4 | 19– 4 3/8 |
| 14 | 19–10 | 19–11 3/4 | 20– 1 1/2 | 20– 3 1/4 | 20– 5 | 20– 6 3/4 | 20– 8 1/2 | 20–10 1/4 |
| 15 | 21– 3 | 21– 4 7/8 | 21– 6 3/4 | 21– 8 5/8 | 21–10 1/2 | 22– 0 3/8 | 22– 2 1/4 | 22– 4 1/8 |
| 16 | 22– 8 | 22–10 | 23– 0 | 23– 2 | 23– 4 | 23– 6 | 23– 8 | 23–10 |
| 17 | 24– 1 | 24– 3 1/8 | 24– 5 1/4 | 24– 7 3/8 | 24– 9 1/2 | 24–11 5/8 | 25– 1 3/4 | 25– 3 7/8 |
| 18 | 25– 6 | 25– 8 1/4 | 25–10 1/2 | 26– 0 3/4 | 26– 3 | 26– 5 1/4 | 26– 7 1/2 | 26– 9 3/4 |
| 19 | 26–11 | 27– 1 3/8 | 27– 3 3/4 | 27– 6 1/8 | 27– 8 1/2 | 27–10 7/8 | 28– 1 1/4 | 28– 3 5/8 |
| 20 | 28– 4 | 28– 6 1/2 | 28– 9 | 28–11 1/2 | 29– 2 | 29– 4 1/2 | 29– 7 | 29– 9 1/2 |

# MULTIPLICATION TABLE FOR SPACING OF LATTICE BARS

| No. Spaces | 1' 6" | 1' 6 1/8" | 1' 6 1/4" | 1' 6 3/8" | 1' 6 1/2" | 1' 6 5/8" | 1' 6 3/4" | 1' 6 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 3–0 | 3–0 1/4 | 3– 0 1/2 | 3– 0 3/4 | 3– 1 | 3– 1 1/4 | 3– 1 1/2 | 3– 1 3/4 |
| 3 | 4–6 | 4–6 3/8 | 4– 6 3/4 | 4– 7 1/8 | 4– 7 1/2 | 4– 7 7/8 | 4– 8 1/4 | 4– 8 5/8 |
| 4 | 6–0 | 6–0 1/2 | 6– 1 | 6– 1 1/2 | 6– 2 | 6– 2 1/2 | 6– 3 | 6– 3 1/2 |
| 5 | 7–6 | 7–6 5/8 | 7– 7 1/4 | 7– 7 7/8 | 7– 8 1/2 | 7– 9 1/8 | 7– 9 3/4 | 7–10 3/8 |
| 6 | 9–0 | 9–0 3/4 | 9– 1 1/2 | 9– 2 1/4 | 9– 3 | 9– 3 3/4 | 9– 4 1/2 | 9– 5 1/4 |
| 7 | 10–6 | 10–6 7/8 | 10– 7 3/4 | 10– 8 5/8 | 10– 9 1/2 | 10–10 3/8 | 10–11 1/4 | 11– 0 1/8 |
| 8 | 12–0 | 12–1 | 12– 2 | 12– 3 | 12– 4 | 12– 5 | 12– 6 | 12– 7 |
| 9 | 13–6 | 13–7 1/8 | 13– 8 1/4 | 13– 9 3/8 | 13–10 1/2 | 13–11 5/8 | 14– 0 3/4 | 14– 1 7/8 |
| 10 | 15–0 | 15–1 1/4 | 15– 2 1/2 | 15– 3 3/4 | 15– 5 | 15– 6 1/4 | 15– 7 1/2 | 15– 8 3/4 |
| 11 | 16–6 | 16–7 3/8 | 16– 8 3/4 | 16–10 1/8 | 16–11 1/2 | 17– 0 7/8 | 17– 2 1/4 | 17– 3 5/8 |
| 12 | 18–0 | 18–1 1/2 | 18– 3 | 18– 4 1/2 | 18– 6 | 18– 7 1/2 | 18– 9 | 18–10 1/2 |
| 13 | 19–6 | 19–7 5/8 | 19– 9 1/4 | 19–10 7/8 | 20– 0 1/2 | 20– 2 1/8 | 20– 3 3/4 | 20– 5 3/8 |
| 14 | 21–0 | 21–1 3/8 | 21– 3 1/2 | 21– 5 1/4 | 21– 7 | 21– 8 3/4 | 21–10 1/2 | 22– 0 1/4 |
| 15 | 22–6 | 22–7 7/8 | 22– 9 3/4 | 22–11 5/8 | 23– 1 1/2 | 23– 3 3/8 | 23– 5 1/4 | 23– 7 1/8 |
| 16 | 24–0 | 24–2 | 24– 4 | 24– 6 | 24– 8 | 24–10 | 25– 0 | 25– 2 |
| 17 | 25–6 | 25–8 1/8 | 25–10 1/4 | 26– 0 3/8 | 26– 2 1/2 | 26– 4 5/8 | 26– 6 3/4 | 26– 8 7/8 |
| 18 | 27–0 | 27–2 1/4 | 27– 4 1/2 | 27– 6 3/4 | 27– 9 | 27–11 1/4 | 28– 1 1/2 | 28– 3 3/4 |
| 19 | 28–6 | 28–8 3/8 | 28–10 3/4 | 29– 1 1/8 | 29– 3 1/2 | 29– 5 7/8 | 29– 8 1/4 | 29–10 5/8 |
| 20 | 30–0 | 30–2 1/2 | 30– 5 | 30– 7 1/2 | 30–10 | 31– 0 1/2 | 31– 3 | 31– 5 1/2 |

| No. Spaces | 1' 7" | 1' 7 1/8" | 1' 7 1/4" | 1' 7 3/8" | 1' 7 1/2" | 1' 7 5/8" | 1' 7 3/4" | 1' 7 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 3– 2 | 3– 2 1/4 | 3– 2 1/2 | 3– 2 3/4 | 3– 3 | 3– 3 1/4 | 3– 3 1/2 | 3– 3 3/4 |
| 3 | 4– 9 | 4– 9 3/8 | 4– 9 3/4 | 4–10 1/8 | 4–10 1/2 | 4–10 7/8 | 4–11 1/4 | 4–11 5/8 |
| 4 | 6– 4 | 6– 4 1/2 | 6– 5 | 6– 5 1/2 | 6– 6 | 6– 6 1/2 | 6– 7 | 6– 7 1/2 |
| 5 | 7–11 | 7–11 5/8 | 8– 0 1/4 | 8– 0 7/8 | 8– 1 1/2 | 8– 2 1/8 | 8– 2 3/4 | 8– 3 3/8 |
| 6 | 9– 6 | 9– 6 3/4 | 9– 7 1/2 | 9– 8 1/4 | 9– 9 | 9– 9 3/4 | 9–10 1/2 | 9–11 1/4 |
| 7 | 11– 1 | 11– 1 7/8 | 11– 2 3/4 | 11– 3 5/8 | 11– 4 1/2 | 11– 5 3/8 | 11– 6 1/4 | 11– 7 1/8 |
| 8 | 12– 8 | 12– 9 | 12–10 | 12–11 | 13– 0 | 13– 1 | 13– 2 | 13– 3 |
| 9 | 14– 3 | 14– 4 1/8 | 14– 5 1/4 | 14– 6 3/8 | 14– 7 1/2 | 14– 8 5/8 | 14– 9 3/4 | 14–10 7/8 |
| 10 | 15–10 | 15–11 1/4 | 16– 0 1/2 | 16– 1 3/4 | 16– 3 | 16– 4 1/4 | 16– 5 1/2 | 16– 6 3/4 |
| 11 | 17– 5 | 17– 6 3/8 | 17– 7 3/4 | 17– 9 1/8 | 17–10 1/2 | 17–11 7/8 | 18– 1 1/4 | 18– 2 5/8 |
| 12 | 19– 0 | 19– 1 1/2 | 19– 3 | 19– 4 1/2 | 19– 6 | 19– 7 1/2 | 19– 9 | 19–10 1/2 |
| 13 | 20– 7 | 20– 8 5/8 | 20–10 1/4 | 20–11 7/8 | 21– 1 1/2 | 21– 3 1/8 | 21– 4 3/4 | 21– 6 3/8 |
| 14 | 22– 2 | 22– 3 3/4 | 22– 5 1/2 | 22– 7 1/4 | 22– 9 | 22–10 3/4 | 23– 0 1/2 | 23– 2 1/4 |
| 15 | 23– 9 | 23–10 7/8 | 24– 0 3/4 | 24– 2 5/8 | 24– 4 1/2 | 24– 6 3/8 | 24– 8 1/4 | 24–10 1/8 |
| 16 | 25– 4 | 25– 6 | 25– 8 | 25–10 | 26– 0 | 26– 2 | 26– 4 | 26– 6 |
| 17 | 26–11 | 27– 1 1/8 | 27– 3 1/4 | 27– 5 3/8 | 27– 7 1/2 | 27– 9 5/8 | 27–11 3/4 | 28– 1 7/8 |
| 18 | 28– 6 | 28– 8 1/4 | 28–10 1/2 | 29– 0 3/4 | 29– 3 | 29– 5 1/4 | 29– 7 1/2 | 29– 9 3/4 |
| 19 | 30– 1 | 30– 3 3/8 | 30– 5 3/4 | 30– 8 1/8 | 30–10 1/2 | 31– 0 7/8 | 31– 3 1/4 | 31– 5 5/8 |
| 20 | 31– 8 | 31–10 1/2 | 32– 1 | 32– 3 1/2 | 32– 6 | 32– 8 1/2 | 32–11 | 33– 1 1/2 |

# MULTIPLICATION TABLE FOR SPACING OF LATTICE BARS

| No. Spaces | 1' 8" | 1' 8 1/8" | 1' 8 1/4" | 1' 8 3/8" | 1' 8 1/2" | 1' 8 5/8" | 1' 8 3/4" | 1' 8 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 3–4 | 3– 4 1/4 | 3– 4 1/2 | 3– 4 3/4 | 3– 5 | 3– 5 1/4 | 3– 5 1/2 | 3– 5 3/4 |
| 3 | 5–0 | 5– 0 3/8 | 5– 0 3/4 | 5– 1 1/8 | 5– 1 1/2 | 5– 1 7/8 | 5– 2 1/4 | 5– 2 5/8 |
| 4 | 6–8 | 6– 8 1/2 | 6– 9 | 6– 9 1/2 | 6–10 | 6–10 1/2 | 6–11 | 6–11 1/2 |
| 5 | 8–4 | 8– 4 5/8 | 8– 5 1/4 | 8– 5 7/8 | 8– 6 1/2 | 8– 7 1/8 | 8– 7 3/4 | 8– 8 3/8 |
| 6 | 10–0 | 10– 0 3/4 | 10– 1 1/2 | 10– 2 1/4 | 10– 3 | 10– 3 3/4 | 10– 4 1/2 | 10– 5 1/4 |
| 7 | 11–8 | 11– 8 7/8 | 11– 9 3/4 | 11–10 5/8 | 11–11 1/2 | 12– 0 3/8 | 12– 1 1/4 | 12– 2 1/8 |
| 8 | 13–4 | 13– 5 | 13– 6 | 13– 7 | 13– 8 | 13– 9 | 13–10 | 13–11 |
| 9 | 15–0 | 15– 1 1/8 | 15– 2 1/4 | 15– 3 3/8 | 15– 4 1/2 | 15– 5 5/8 | 15– 6 3/4 | 15– 7 7/8 |
| 10 | 16–8 | 16– 9 1/4 | 16–10 1/2 | 16–11 3/4 | 17– 1 | 17– 2 1/4 | 17– 3 1/2 | 17– 4 3/4 |
| 11 | 18–4 | 18– 5 3/8 | 18– 6 3/4 | 18– 8 1/8 | 18– 9 1/2 | 18–10 7/8 | 19– 0 1/4 | 19– 1 5/8 |
| 12 | 20–0 | 20– 1 1/2 | 20– 3 | 20– 4 1/2 | 20– 6 | 20– 7 1/2 | 20– 9 | 20–10 1/2 |
| 13 | 21–8 | 21– 9 5/8 | 21–11 1/4 | 22– 0 7/8 | 22– 2 1/2 | 22– 4 1/8 | 22– 5 3/4 | 22– 7 3/8 |
| 14 | 23–4 | 23– 5 3/4 | 23– 7 1/2 | 23– 9 1/4 | 23–11 | 24– 0 3/4 | 24– 2 1/2 | 24– 4 1/4 |
| 15 | 25–0 | 25– 1 7/8 | 25– 3 3/4 | 25– 5 5/8 | 25– 7 1/2 | 25– 9 3/8 | 25–11 1/4 | 26– 1 1/8 |
| 16 | 26–8 | 26–10 | 27– 0 | 27– 2 | 27– 4 | 27– 6 | 27– 8 | 27–10 |
| 17 | 28–4 | 28– 6 1/8 | 28– 8 1/4 | 28–10 3/8 | 29– 0 1/2 | 29– 2 5/8 | 29– 4 3/4 | 29– 6 7/8 |
| 18 | 30–0 | 30– 2 1/4 | 30– 4 1/2 | 30– 6 3/4 | 30– 9 | 30–11 1/4 | 31– 1 1/2 | 31– 3 3/4 |
| 19 | 31–8 | 31–10 3/8 | 32– 0 3/4 | 32– 3 1/8 | 32– 5 1/2 | 32– 7 7/8 | 32–10 1/4 | 33– 0 5/8 |
| 20 | 33–4 | 33– 6 1/2 | 33– 9 | 33–11 1/2 | 34– 2 | 34– 4 1/2 | 34– 7 | 34– 9 1/2 |

| No. Spaces | 1' 9" | 1' 9 1/8" | 1' 9 1/4" | 1' 9 3/8" | 1' 9 1/2" | 1' 9 5/8" | 1' 9 3/4" | 1' 9 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 3–6 | 3– 6 1/4 | 3– 6 1/2 | 3– 6 3/4 | 3– 7 | 3– 7 1/4 | 3– 7 1/2 | 3– 7 3/4 |
| 3 | 5–3 | 5– 3 3/8 | 5– 3 3/4 | 5– 4 1/8 | 5– 4 1/2 | 5– 4 7/8 | 5– 5 1/4 | 5– 5 5/8 |
| 4 | 7–0 | 7– 0 1/2 | 7– 1 | 7– 1 1/2 | 7– 2 | 7– 2 1/2 | 7– 3 | 7– 3 1/2 |
| 5 | 8–9 | 8– 9 5/8 | 8–10 1/4 | 8–10 7/8 | 8–11 1/2 | 9– 0 1/8 | 9– 0 3/4 | 9– 1 3/8 |
| 6 | 10–6 | 10– 6 3/4 | 10– 7 1/2 | 10– 8 1/4 | 10– 9 | 10– 9 3/4 | 10–10 1/2 | 10–11 1/4 |
| 7 | 12–3 | 12– 3 7/8 | 12– 4 3/4 | 12– 5 5/8 | 12– 6 1/2 | 12– 7 3/8 | 12– 8 1/4 | 12– 9 1/8 |
| 8 | 14–0 | 14– 1 | 14– 2 | 14– 3 | 14– 4 | 14– 5 | 14– 6 | 14– 7 |
| 9 | 15–9 | 15–10 1/8 | 15–11 1/4 | 16– 0 3/8 | 16– 1 1/2 | 16– 2 5/8 | 16– 3 3/4 | 16– 4 7/8 |
| 10 | 17–6 | 17– 7 1/4 | 17– 8 1/2 | 17– 9 3/4 | 17–11 | 18– 0 1/4 | 18– 1 1/2 | 18– 2 3/4 |
| 11 | 19–3 | 19– 4 3/8 | 19– 5 3/4 | 19– 7 1/8 | 19– 8 1/2 | 19– 9 7/8 | 19–11 1/4 | 20– 0 5/8 |
| 12 | 21–0 | 21– 1 1/2 | 21– 3 | 21– 4 1/2 | 21– 6 | 21– 7 1/2 | 21– 9 | 21–10 1/2 |
| 13 | 22–9 | 22–10 5/8 | 23– 0 1/4 | 23– 1 7/8 | 23– 3 1/2 | 23– 5 1/8 | 23– 6 3/4 | 23– 8 3/8 |
| 14 | 24–6 | 24– 7 3/4 | 24– 9 1/2 | 24–11 1/4 | 25– 1 | 25– 2 3/4 | 25– 4 1/2 | 25– 6 1/4 |
| 15 | 26–3 | 26– 4 7/8 | 26– 6 3/4 | 26– 8 5/8 | 26–10 1/2 | 27– 0 3/8 | 27– 2 1/4 | 27– 4 1/8 |
| 16 | 28–0 | 28– 2 | 28– 4 | 28– 6 | 28– 8 | 28–10 | 29– 0 | 29– 2 |
| 17 | 29–9 | 29–11 1/8 | 30– 1 1/4 | 30– 3 3/8 | 30– 5 1/2 | 30– 7 5/8 | 30– 9 3/4 | 30–11 7/8 |
| 18 | 31–6 | 31– 8 1/4 | 31–10 1/2 | 32– 0 3/4 | 32– 3 | 32– 5 1/4 | 32– 7 1/2 | 32– 9 3/4 |
| 19 | 33–3 | 33– 5 3/8 | 33– 7 3/4 | 33–10 1/8 | 34– 0 1/2 | 34– 2 7/8 | 34– 5 1/4 | 34– 7 5/8 |
| 20 | 35–0 | 35– 2 1/2 | 35– 5 | 35– 7 1/2 | 35–10 | 36– 0 1/2 | 36– 3 | 36– 5 1/2 |

# MULTIPLICATION TABLE FOR SPACING OF LATTICE BARS

| No. Spaces | 1' 10" | 1' 10 1/8" | 1' 10 1/4" | 1' 10 3/8" | 1' 10 1/2" | 1' 10 5/8" | 1' 10 3/4" | 1' 10 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 3– 8 | 3– 8 1/4 | 3– 8 1/2 | 3– 8 3/4 | 3– 9 | 3– 9 1/4 | 3– 9 1/2 | 3– 9 3/4 |
| 3 | 5– 6 | 5– 6 3/8 | 5– 6 3/4 | 5– 7 1/8 | 5– 7 1/2 | 5– 7 7/8 | 5– 8 1/4 | 5– 8 5/8 |
| 4 | 7– 4 | 7– 4 1/2 | 7– 5 | 7– 5 1/2 | 7– 6 | 7– 6 1/2 | 7– 7 | 7– 7 1/2 |
| 5 | 9– 2 | 9– 2 5/8 | 9– 3 1/4 | 9– 3 7/8 | 9– 4 1/2 | 9– 5 1/8 | 9– 5 3/4 | 9– 6 3/8 |
| 6 | 11– 0 | 11– 0 3/4 | 11– 1 1/2 | 11– 2 1/4 | 11– 3 | 11– 3 3/4 | 11– 4 1/2 | 11– 5 1/4 |
| 7 | 12–10 | 12–10 7/8 | 12–11 3/4 | 13– 0 5/8 | 13– 1 1/2 | 13– 2 3/8 | 13– 3 1/4 | 13– 4 1/8 |
| 8 | 14– 8 | 14– 9 | 14–10 | 14–11 | 15– 0 | 15– 1 | 15– 2 | 15– 3 |
| 9 | 16– 6 | 16– 7 1/8 | 16– 8 1/4 | 16– 9 3/8 | 16–10 1/2 | 16–11 5/8 | 17– 0 3/4 | 17– 1 7/8 |
| 10 | 18– 4 | 18– 5 1/4 | 18– 6 1/2 | 18– 7 3/4 | 18– 9 | 18–10 1/4 | 18–11 1/2 | 19– 0 3/4 |
| 11 | 20– 2 | 20– 3 3/8 | 20– 4 3/4 | 20– 6 1/8 | 20– 7 1/2 | 20– 8 7/8 | 20–10 1/4 | 20–11 5/8 |
| 12 | 22– 0 | 22– 1 1/2 | 22– 3 | 22– 4 1/2 | 22– 6 | 22– 7 1/2 | 22– 9 | 22–10 1/2 |
| 13 | 23–10 | 23–11 5/8 | 24– 1 1/4 | 24– 2 7/8 | 24– 4 1/2 | 24– 6 1/8 | 24– 7 3/4 | 24– 9 3/8 |
| 14 | 25– 8 | 25– 9 3/4 | 25–11 1/2 | 26– 1 1/4 | 26– 3 | 26– 4 3/4 | 26– 6 1/2 | 26– 8 1/4 |
| 15 | 27– 6 | 27– 7 7/8 | 27– 9 3/4 | 27–11 5/8 | 28– 1 1/2 | 28– 3 3/8 | 28– 5 1/4 | 28– 7 1/8 |
| 16 | 29– 4 | 29– 6 | 29– 8 | 29–10 | 30– 0 | 30– 2 | 30– 4 | 30– 6 |
| 17 | 31– 2 | 31– 4 1/8 | 31– 6 1/4 | 31– 8 3/8 | 31–10 1/2 | 32– 0 5/8 | 32– 2 3/4 | 32– 4 7/8 |
| 18 | 33– 0 | 33– 2 1/4 | 33– 4 1/2 | 33– 6 3/4 | 33– 9 | 33–11 1/4 | 34– 1 1/2 | 34– 3 3/4 |
| 19 | 34–10 | 35– 0 3/8 | 35– 2 3/4 | 35– 5 1/8 | 35– 7 1/2 | 35– 9 7/8 | 36– 0 1/4 | 36– 2 5/8 |
| 20 | 36– 8 | 36–10 1/2 | 37– 1 | 37– 3 1/2 | 37– 6 | 37– 8 1/2 | 37–11 | 38– 1 1/2 |

| No. Spaces | 1' 11" | 1' 11 1/8" | 1' 11 1/4" | 1' 11 3/8" | 1' 11 1/2" | 1' 11 5/8" | 1' 11 3/4" | 1' 11 7/8" |
|---|---|---|---|---|---|---|---|---|
| 2 | 3–10 | 3–10 1/4 | 3–10 1/2 | 3–10 3/4 | 3–11 | 3–11 1/4 | 3–11 1/2 | 3–11 3/4 |
| 3 | 5– 9 | 5– 9 3/8 | 5– 9 3/4 | 5–10 1/8 | 5–10 1/2 | 5–10 7/8 | 5–11 1/4 | 5–11 5/8 |
| 4 | 7– 8 | 7– 8 1/2 | 7– 9 | 7– 9 1/2 | 7–10 | 7–10 1/2 | 7–11 | 7–11 1/2 |
| 5 | 9– 7 | 9– 7 5/8 | 9– 8 1/4 | 9– 8 7/8 | 9– 9 1/2 | 9–10 1/8 | 9–10 3/4 | 9–11 3/8 |
| 6 | 11– 6 | 11– 6 3/4 | 11– 7 1/2 | 11– 8 1/4 | 11– 9 | 11– 9 3/4 | 11–10 1/2 | 11–11 1/4 |
| 7 | 13– 5 | 13– 5 7/8 | 13– 6 3/4 | 13– 7 5/8 | 13– 8 1/2 | 13– 9 3/8 | 13–10 1/4 | 13–11 1/8 |
| 8 | 15– 4 | 15– 5 | 15– 6 | 15– 7 | 15– 8 | 15– 9 | 15–10 | 15–11 |
| 9 | 17– 3 | 17– 4 1/8 | 17– 5 1/4 | 17– 6 3/8 | 17– 7 1/2 | 17– 8 5/8 | 17– 9 3/4 | 17–10 7/8 |
| 10 | 19– 2 | 19– 3 1/4 | 19– 4 1/2 | 19– 5 3/4 | 19– 7 | 19– 8 1/4 | 19– 9 1/2 | 19–10 3/4 |
| 11 | 21– 1 | 21– 2 3/8 | 21– 3 3/4 | 21– 5 1/8 | 21– 6 1/2 | 21– 7 7/8 | 21– 9 1/4 | 21–10 5/8 |
| 12 | 23– 0 | 23– 1 1/2 | 23– 3 | 23– 4 1/2 | 23– 6 | 23– 7 1/2 | 23– 9 | 23–10 1/2 |
| 13 | 24–11 | 25– 0 5/8 | 25– 2 1/4 | 25– 3 7/8 | 25– 5 1/2 | 25– 7 1/8 | 25– 8 3/4 | 25–10 3/8 |
| 14 | 26–10 | 26–11 3/4 | 27– 1 1/2 | 27– 3 1/4 | 27– 5 | 27– 6 3/4 | 27– 8 1/2 | 27–10 1/4 |
| 15 | 28– 9 | 28–10 7/8 | 29– 0 3/4 | 29– 2 5/8 | 29– 4 1/2 | 29– 6 3/8 | 29– 8 1/4 | 29–10 1/8 |
| 16 | 30– 8 | 30–10 | 31– 0 | 31– 2 | 31– 4 | 31– 6 | 31– 8 | 31–10 |
| 17 | 32– 7 | 32– 9 1/8 | 32–11 1/4 | 33– 1 3/8 | 33– 3 1/2 | 33– 5 5/8 | 33– 7 3/4 | 33– 9 7/8 |
| 18 | 34– 6 | 34– 8 1/4 | 34–10 1/2 | 35– 0 3/4 | 35– 3 | 35– 5 1/4 | 35– 7 1/2 | 35– 9 3/4 |
| 19 | 36– 5 | 36– 7 3/8 | 36– 9 3/4 | 37– 0 1/8 | 37– 2 1/2 | 37– 4 7/8 | 37– 7 1/4 | 37– 9 5/8 |
| 20 | 38– 4 | 38– 6 1/2 | 38– 9 | 38–11 1/2 | 39– 2 | 39– 4 1/2 | 39– 7 | 39– 9 1/2 |

# EXPLANATIONS AND EXAMPLES.

Although it is assumed that the users of this book of tables are familiar with the principles of logarithms and trigonometry, a few typical examples are given, mainly with a view of showing some of the more important uses of the special tables introduced in this work, namely, the Parallel Tables of Logarithms and Squares and the Table of Angles and Functions Corresponding to Given Bevels, which, for the sake of brevity, will here be referred to simply as the Parallel Tables and Table of Bevels, respectively, as by the use of these tables the solutions of many standard problems in trigonometry are greatly simplified. This is especially true with regard to solutions of triangles when computing dimensions of structural frames. In problems of this class, unlike those relating to surveying, angles measured in degrees, minutes, and seconds are usually not given, nor are they required, because of the fact that in structural work the direction of a member with reference to another is usually not given by the angle that these members form with each other, but by the so-called *bevel* or *slope*, which is the *natural tangent of the angle, expressed in inches and fractions of an inch and referred to 1 foot or 12 inches as a unit.* For example, the angle that the side $A\,B$, Fig. 1, makes with $A\,C$ is indicated by an elementary triangle in which the base is $12''$ and the altitude $s$ is the so-called slope, or bevel, the hypotenuse coinciding with the line $A\,B$. It is true that computations of this nature often involve the solution of a net of triangles, in which the angles of one triangle might be needed in order to solve the next triangle; but, ordinarily, for further calculations it is not the angles themselves that are required but their trigonometric functions. It is therefore primarily with functions of angles, especially with the logarithms of these functions, that we have to deal here, rather than with the angles themselves. This is one of the reasons why the tables referred to are particularly suitable for this class of computations, the combination of the logarithms and the squares making it possible to determine with sufficient accuracy the functions of the angles involved without first computing the angles themselves, as will be shown in the following examples.

In performing this class of computations, which are often very complicated, it is also important to be in a position to check each step of the work in order to avoid the carrying over of errors in the further calculations. The combination of the elements of the Parallel Tables, as well as those of the Table of Bevels, affords effective means for this purpose. It might also be well to mention that the direct work, as well as the checking, is greatly facilitated by the arrangement of the Parallel Tables, in which the logarithms and the squares are placed side by side, enabling the taking from the table of both values at the same time when the number is given, and to

read the square from the logarithm and vice versa, without first determining the number, when the latter is not known.

PROBLEM I.—In the right triangle $ABC$, Fig. 1, the sides $a$ and $b$ are known. Find $c$, $s$, and the logarithms of the functions of the angle $A$. This problem is of frequent occurrence in structural work. The two given sides are usually the main dimensions of a frame, as in a roof truss the half span and rise, and the logarithmic functions are required in order to determine the dimensions of the diagonals of the frame.

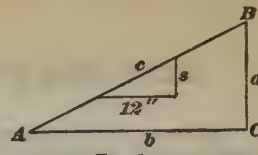


FIG. 1.

SOLUTION.—Take out from the Parallel Tables the logarithms and squares of $a$ and $b$. Subtract log $b$ from log $a$; the difference is log tan $A$=log $s$. Add $b^2$ to $a^2$; the sum is $c^2$. Referring again to the Parallel Tables, take out $c$ and log $c$ corresponding to the nearest $c^2$. Similarly, take out $s$ and $s^2$ corresponding to the nearest log $s$. Then, log sec $A$=log $c$—log $b$. The logarithms of the other functions may then be easily computed from those of the tan $A$ and sec $A$.

Thus, log sin $A$=log tan $A$—log sec $A$;
log csc $A$=log sec $A$—log tan $A$;
log cos $A$=—log sec $A$;
and log cot $A$=—log tan $A$.

It must be noted here, that since log $c$ has been obtained from the table as the nearest value corresponding to $c^2$, the functions derived from it will slightly deviate from their exact values. These deviations, however, will have no appreciable effect on the further calculations involving these functions as long as the new dimensions to be computed are not larger than $c$. With the conditions as indicated in this problem, in which $a$ and $b$ are assumed to be the main dimensions of a frame, the quantities to be derived will be smaller than $c$; the effect of the slight errors in the functions may therefore be disregarded. If desired, however, the slight errors may be entirely eliminated by interpolating for the correct value of log $c$ from $c^2$. This should be done in cases when the dimensions to be calculated are larger than those from which the function has been derived.

For the purpose of checking the computed values, note that $\sec^2 A=1+\tan^2 A=1+s^2$. The numerical value of sec $A$ can therefore be obtained from the table of squares. On the other hand, the same value of sec $A$ may also be determined from log sec $A$. It is evident that both values must agree if the computations were made correctly.

As an illustration, let $a$=15′ 7½″ and $b$=35′ 9¾″. Proceeding by the method just explained, we obtain:

| | |
|---|---|
| log $a$=1.19382 | $a^2$= 244.1406 |
| log $b$=1.55403 | $b^2$=1282.5352 |
| log tan $A$=log $s$=9.63979 | $c^2$=1526.6758 |

Hence, $s$=5¼ and $s^2$=.1914; also, $c$=39′ 0⅞″ and log $c$=1.59188; therefore, log sec $A$=log $c$—log $b$=1.59188—1.55403=0.03785.

The logarithm of any other function may now be calculated from those of the tangent and the secant. For instance, log sin $A$= log tan $A$—log sec $A$=9.63979—0.03785=9.60194.

For the purpose of checking, note that $\sec^2 A$=1.1914 and that log sec $A$ has already been found as 0.03785. The numerical value of sec $A$, in feet and inches, is then determined both by its logarithm and by its square, as $1' 1\frac{3}{32}''$. The calculations may therefore be assumed as correct.

All values involved in this problem are tabulated in the accompanying table. A similar tabulation is recommended in all problems of this kind, as its use, especially in complicated computations, results in considerable saving of time and enables the rapid checking of the computed values. The letters $N$, $L$, and $S$ indicate, respectively, the numerical value, the logarithm, and the square of the member given in the extreme left-hand column. As these values are placed in the table side by side, the entire set is at once taken from the table when one of them is given. The table is to be filled out gradually as the work is progressing. In the following examples, except in problem VII, these tabulations are omitted on account of lack of space.

| | $N$ | $L$ | $S$ |
|---|---|---|---|
| $a$ | $15-7\frac{1}{2}$ | 1.19382 | 244.1406 |
| $b$ | $35-9\frac{3}{4}$ | 1.55403 | 1282.5352 |
| $c$ | $39-0\frac{7}{8}$ | 1.59188 | 1526.6758 |
| tan $A$=$s$ | $5\frac{1}{2}$ | 9.63979 | .1914 |
| sec $A$ | $1-1\frac{3}{32}$ | 0.03785 | 1.1914 |
| sin $A$ | | 9.60194 | |

Problem II.—In the right triangle $A\ B\ C$, Fig. 1, the sides $b$ and $c$ are known. Find $a$ and $s$, and the logarithmic functions of the angle $A$.

Solution.—This problem is solved in much the same manner as the preceding one, the relation $a^2=c^2-b^2$ being used for finding $a$ and log $a$. The bevel $s$, however, is here preferably determined from the Table of Bevels as the nearest one corresponding to log sec $A$=log $c$—log $b$. After log tan $A$ has been computed, $s$ may again be determined as a check on the obtained value of the bevel, as well as on the values of $a$ and log sec $A$.

As an illustration, let $b$=36′ $11\frac{1}{2}''$ and $c$=39′ $3\frac{1}{4}''$. Reference to the Parallel Tables shows that

| | |
|---|---|
| log $c$=1.59407 | $c^2$=1542.1984 |
| log $b$=1.56771 | $b^2$=1365.9184 |
| log sec $A$=0.02636 | $a^2$= 176.2800 |

According to the Table of Bevels, $s=4\frac{5}{16}$, and according to the Parallel Tables, $a$=13′ $3\frac{5}{16}''$ and log $a$=1.12307. Hence, log tan $A$=1.12307—1.56771=9.55536. From this, the bevel is again determined, from the Parallel Tables, as $4\frac{5}{16}$, which shows that the calculations are correct.

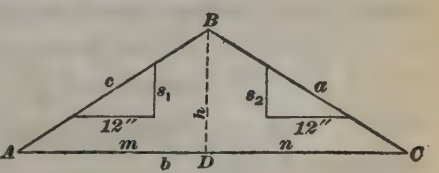


Fig. 2.

Problem III.—In the triangle $ABC$, Fig. 2, the sides $a$, $b$,

and $c$ are known. Find $m=A\,D$ and $n=D\,C$, $B\,D$ being the altitude of the triangle.

SOLUTION.—From the triangle $A\,B\,D$, $m=c\cos A$ (1) and $n=a\cos C$ (2), and from the triangle $A\,B\,C$, $a^2=b^2+c^2-2\,b\,c\cos A$ and $c^2=a^2+b^2-2\,a\,b\cos C$. Solving for $\cos A$ and $\cos C$, $\cos A=\frac{b^2+c^2-a^2}{2\,b\,c}$ (3) and $\cos C=\frac{a^2+b^2-c^2}{2\,a\,b}$ (4). Substituting these values of $\cos A$ and $\cos C$ in the expression for $m$ and $n$, respectively, equations 1 and 2 become $m=\frac{b^2+c^2-a^2}{2\,b}$ and $n=\frac{a^2+b^2-c^2}{2\,b}$. By the table of squares, find $c^2+b^2-a^2=w^2$ and $a^2+b^2-c^2=v^2$. Then, $m=\frac{w^2}{2b}$ and $n=\frac{v^2}{2b}$.

Hence, $\log m=\log w^2-\log(2b)$

and $\log n=\log v^2-\log(2b)$

Log $b$ may be taken from the Parallel Tables at the same time that $b^2$ is found. The values of $w^2$ and $v^2$ are expressed in decimals; their logarithms may be taken from the Table of Common Logarithms of Numbers, or $\log w$ and $\log v$ may be determined as the values corresponding to $w^2$ and $v^2$ in the Parallel Tables and then multiplied by 2. Time may be saved by using the second method, but the first method is more accurate.

As a check, the sum of $m$ and $n$ must be equal to $b$.

Let, for example, $a=9'\ 7\frac{5}{8}''$, $b=15'\ 6\frac{3}{4}''$, and $c=8'\ 5\frac{1}{2}''$. Then, $w^2=c^2+b^2-a^2=71.5434+242.1914-92.8413=220.8935$ and $v^2=a^2+b^2-c^2=92.8413+242.1914-71.5434=263.4893$; $\log w^2=2.34418$; $\log v^2=2.42076$ and $\log(2b)=1.19208+0.30103=1.49311$; $\log m=2.34418-1.49311=0.85107=\log 7'\ 1\frac{5}{32}''$ and $\log n=2.42076-1.49311=0.92765=\log 8'\ 5\frac{19}{32}''$. As a check, $m+n=7'\ 1\frac{5}{32}''+8'\ 5\frac{19}{32}''=15'\ 6\frac{3}{4}''$.

PROBLEM IV.—In the triangle $ABC$, Fig. 2, the three sides $a$, $b$, and $c$ are known. Find the bevels $s_1$ and $s_2$.

SOLUTION.—*First Method.*—Compute $m$ and $n$ as in problem III. The bevels can then be determined from the triangles $ABD$ and $BCD$, as explained in Problem II.

*Second Method.*—Using the formulas $\cos A=\frac{b^2+c^2-a^2}{2\,b\,c}$ and $\cos C=\frac{a^2+b^2-c^2}{2\,a\,b}$, determine $\log\cos A$ and $\log\cos C$ and take the corresponding bevels from the Table of Bevels.

*Third Method.*—Calculate the angles $A$ and $C$ by the formulas $\sin\frac{A}{2}=\sqrt{\frac{(p-a)(p-b)}{b\,c}}$ and $\sin\frac{C}{2}=\sqrt{\frac{(p-a)(p-b)}{a\,b}}$, in which $p=\frac{a+b+c}{2}$. Then, take the bevels corresponding to $A$ and $C$ from the Table of Bevels.

In the following, the second and third methods are illustrated by a numerical example, assuming for $a$, $b$, and $c$ the same values as in Problem III.

In applying the second method,

$$\cos A=\frac{b^2+c^2-a^2}{2\,b\,c}=\frac{w^2}{2\,b\,c} \text{ and } \cos C=\frac{a^2+b^2-c^2}{2\,a\,b}=\frac{v^2}{2\,a\,b}.$$

Hence, $\log \cos A=\log w^2-\log (2\,b\,c)=9.92379$

and $\log \cos C=\log v^2-\log (2\,b\,a)=9.94378.$

Referring to the Table of Bevels, it is found that $s_1=7\frac{23}{32}''$ and $s_2=6\frac{7}{32}''$.

In applying the third method, $p=16'\ 9\frac{15}{16}''$; $p-a=7'\ 2\frac{5}{16}''$; $p-b=1'\ 3\frac{3}{16}''$; and $p-c=8'\ 4\frac{7}{16}''$.

Therefore, $$\sin\frac{A}{2}=\sqrt{\frac{1'\ 3\frac{3}{16}''\times 8'\ 4\frac{7}{16}''}{15'\ 6\frac{3}{4}''\times 8'\ 5\frac{1}{2}''}}$$

and $$\sin\frac{C}{2}=\sqrt{\frac{7'\ 2\frac{5}{16}''\times 1'\ 3\frac{3}{16}''}{15'\ 6\frac{3}{4}''\times 9'\ 7\frac{5}{8}''}};$$

whence, $A=32°\ 57'\ 34''$ and $C=28°\ 31'\ 42''$.

Referring to the Table of Bevels, it is found that $s_1=7\frac{23}{32}''$ and $s_2=6\frac{7}{32}''$, as before.

PROBLEM V.—In the triangle $ABC$, Fig. 2, the sides $b$ and $c$ are given and the logarithmic functions of the angle $A$ are known. Find the side $a$ and the bevel $s_2$.

SOLUTION.—*First Method.*—Solve the triangle $ABD$ for the values of $h$ and $m$ by the formulas $h=c \sin A$ and $m=c \cos A$. Then, since $n=b-m$, the triangle $BDC$ may be solved and the values of $a$ and $s_2$ obtained, as explained in connection with Problem I.

*Second Method.*—Determine $a$ and $\log a$ by the Parallel Tables from the relation $a^2=b^2+c^2-2\,b\,c \cos A$. Then, employing the formula $\sin C=\frac{c}{a}\sin A$, compute $\log \sin C=\log c+\log \sin A-\log a$ and take the corresponding bevel from the Table of Bevels.

Let, for example, $c=10'\ 7\frac{1}{2}''$ and $b=18'\ 5''$, and let the bevel $s_1=9\frac{1}{4}''$; log sin $A$ and log cos $A$ may therefore be obtained from the Table of Bevels, as log sin $A=9.78569$ and log cos $A=9.89873$. Then, in using the first method, it is found by reference to the Parallel Tables that $\log c=1.02633$ and $c^2=112.8906$. Therefore, $\log h=1.02633+9.78569=0.81202$, and $\log m=1.02633+9.89873=0.92506$. Therefore, $h=6'\ 5\frac{23}{32}''$ and $h^2=42.0809$, $m=8'\ 4\frac{31}{32}''$, and $m^2=70.7964$.

As a check, $h^2+m^2=c^2=42.0809+70.7964=112.8773$, which gives for $c$ the value of $10'\ 7\frac{1}{2}''$. To solve, now, the triangle $DBC$, $n=18'\ 5''-8'\ 4\frac{31}{32}''=10'\ 0\frac{1}{32}''$. Then, log $n=1.00011$ and $n^2=100.0521$. Proceeding now as in Problem I, it is found that $s_2=7\frac{23}{32}''$ and $a=11'\ 11\frac{1}{16}''$.

To apply the second method,

$\log b=1.26521$ and $b^2=339.1736$;

$\log c=1.02633$ and $c^2=112.8906$;

$\log (2\,b\,c \cos A)=2.49130=\log 309.957$.

Hence, $a^2=339.1736+112.8906-309.957=142.1072=(11'\ 11\frac{1}{16}'')^2$ and $\log a=1.07634$. To determine the bevel, the formula $\sin C=$

$\frac{c}{a}$sin $A$ is applied; whence, log sin $C$=log $c$+log sin $A$—log $a$= 1.02633+9.78569—1.07634=9.73568, and by reference to the Table of Bevels it is found that $s_2=7\frac{5}{32}''$.

Problem VI.—In the frame shown in Fig. 3, in which $A\ B\ C$ is a right triangle, are given $B\ C$, $A\ C$, and $A\ D'$. Find $A\ B$, $D\ C$, and the bevels $s_1$, $s_2$, and $s_3$.

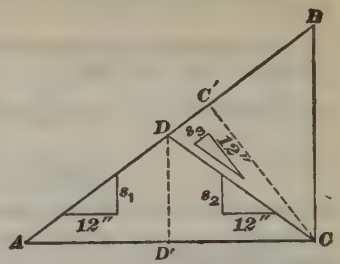


Fig. 3.

Solution.—First solve triangle $A\ B\ C$, proceeding exactly as in problem I. Then determine $D\ C$ and $s_2$ by either of the methods explained in problem V. Finally, $s_3$ may be computed from the triangle $D\ B\ C$ by proceeding as in problem IV, or by solving triangle $A\ C\ C'$, thus determining $D\ C'$ and $C\ C'$, and then obtaining $s_3$ from the triangle $D\ C\ C'$. The bevel $s_3$ may also be determined by computing the angle $B\ D\ C=B\ A\ C+D\ C\ A$. The bevel corresponding to this angle may then be obtained by reference to the Table of Bevels.

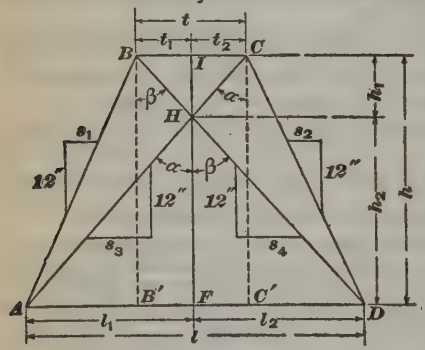


Fig. 4.

Problem VII.—In the frame shown in Fig. 4 are given $s_1$, $s_2$, $h$ and $t$. Calculate the dimensions of all the members, and the bevels $s_3$ and $s_4$.

Solution—First solve the triangle $A\ B\ B'$ and $D\ C\ C'$, proceeding in the same manner as explained on pages 302 and 303 in connection with the Table of Bevels. Then solve triangles $A\ C\ C'$ and $D\ B\ B'$, proceeding exactly as in problem I. Next compute $h_1$ and $h_2$ by the formulas $h_1=\frac{t\ h}{l+t}$ and $h_2=\frac{l\ h}{l+t}$, checking the results by the relation $h_1+h_2=h$.

| | | |
|---|---|---|
| Then, | $l_1=h_2 \tan \alpha$; | $H\ C=h_1 \sec \alpha$; |
| | $l_2=h_2 \tan \beta$; | $A\ H=h_2 \sec \alpha$; |
| | $t_1=l_1-A\ B'$; | $B\ H=h_1 \sec \beta$; |
| | $t_2=l_2-C'\ D$; | $D\ H=h_2 \sec \beta$. |
| As a check, | $l_1+l_2=l$; | $C H+A H=A\ C$; |
| | $t_1+t_2=t$; | $B H+H D=B\ D$. |
| Also | $t_1^2+h_1^2=B\ H^2$; | $l_1^2+h_2^2=A\ H^2$; |
| | $t_2^2+h_1^2=H\ C^2$; | $l_2^2+h_2^2=H\ D^2$. |

In the accompanying table are given the values involved in the calculations for the frame shown in Fig. 4, in which $s_1=1\frac{3}{4}''$, $s_2=1\frac{1}{2}''$, $h=25'\,6''$, and $t=15'\,7''$.

| | $N$ | $L$ | $S$ | | $N$ | $L$ | $S$ |
|---|---|---|---|---|---|---|---|
| $h$ | $25'\ 6''$ | 1.40654 | 650.2500 | $\sec\beta$ | $1'\ 2\frac{29}{32}''$ | 0.09403 | 1.5431 |
| $A\,B'$ | $3'\ 8\frac{5}{8}''$ | 0.57040 | 13.8291 | $h_1$ | $10'\ 5\frac{1}{4}''$ | 1.01858 | 108.9414 |
| $A\,B$ | $25'\ 9\frac{1}{4}''$ | 1.41111 | 664.1359 | $h_2$ | $15'\ 0\frac{3}{4}''$ | 1.17790 | 226.8781 |
| $C'\,D$ | $3'\ 2\frac{1}{4}''$ | 0.50345 | 10.1602 | $l_1$ | $11'\ 4\frac{13}{16}''$ | 1.05696 | 129.9838 |
| $D\,C$ | $25'\ 8\frac{3}{8}''$ | 1.40991 | 660.3829 | $l_2$ | $11'\ 1\frac{1}{16}''$ | 1.04484 | 122.9558 |
| $A\,C'$ | $19'\ 3\frac{5}{8}''$ | 1.28560 | 372.5704 | $t_1$ | $7'\ 8\frac{3}{16}''$ | 0.88549 | 59.0176 |
| $A\,C$ | $31'\,11\frac{25}{32}''$ | 1.50490 | 1022.8204 | $t_2$ | $7'\,10\frac{13}{16}''$ | 0.89768 | 62.4265 |
| $\tan\alpha=s_3$ | $9\frac{3}{32}''$ | 9.87906 | .5743 | $A\,H$ | $18'\,10\frac{11}{16}''$ | 1.27626 | 356.8557 |
| $\sec\alpha$ | $1'\ 3\frac{1}{16}''$ | 0.09836 | 1.5743 | $H\,C$ | $13'\ 1\frac{3}{32}''$ | 1.11694 | 171.3781 |
| $D\,B'$ | $18'\ 9\frac{1}{4}''$ | 1.27348 | 352.3442 | $D\,H$ | $18'\ 8\frac{7}{16}''$ | 1.27193 | 349.8069 |
| $D\,B$ | $31'\ 7\frac{31}{32}''$ | 1.50057 | 1002.5942 | $H\,B$ | $12'\,11\frac{17}{32}''$ | 1.11261 | 167.9859 |
| $\tan\beta=s_4$ | $8\frac{27}{32}''$ | 9.86694 | .5431 | | | | |

PROBLEM VIII.—In the frame shown in Fig. 5 are given $m$, $t$, $n$, $h_1$, and $h_2$. Required, all the dimensions of the members of the frame and their bevels.

SOLUTION.—First solve triangles $A\,B\,B'$, $B\,C\,C''$, and $C\,C'\,D$, proceeding as in problem I, thus determining $A\,B$, $B\,C$, $C\,D$, $s_1$, $s_2$, and $s_3$. Next, solve triangles $A\,C\,C'$ and $D\,B\,B'$, also as in problem I, thereby obtaining $A\,C$, $B\,D$, and the bevels $s_4$ and $s_5$. Then, if $h_1+h_2=h_3$; $m+t=r$; and $n+t=p$,

$$x=\frac{l\,r\,h_2}{r h_2+p h_2}$$

and $$y=\frac{l\,p\,h_2}{r h_2+p h_2}$$

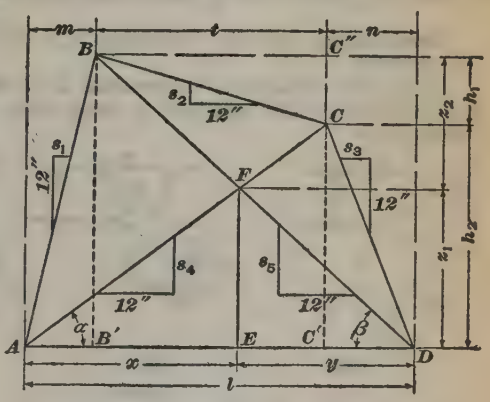


FIG. 5

Then, $z_1=x\tan\alpha=y\tan\beta$, and $z_2=E\,B'\tan\beta$;
$A\,F=x\sec\alpha$ and $F\,C=E\,C'\sec\alpha$;
$F\,D=y\sec\beta$ and $F\,B=B'\,E\sec\beta$.

As a check, $z_1+z_2=h_1+h_2$;
$A\,F+F\,C=A\,C$;
and $D\,F+B\,F=B\,D$.

PROBLEM IX.—In Fig. 6 are given $w_1$, $w_2$, and $s$. To find $AB$, $AD$, $DC$, $EF$, and $AE$.

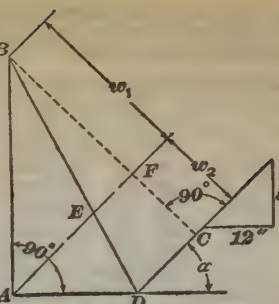


FIG. 6

SOLUTION.—In this problem, as well as in the next one, the Table of Bevels is most conveniently employed. The following formulas may be used: $AB = w_1 \sec a$; $AD = w_2 \csc a$; $DC = w_1 \tan a - w_2 \cot a$; $EF = \frac{DC \times w_1}{w_1 + w_2}$; and $AE = w_1 \tan a - EF$.

Let, for example, $w_1 = 5''$; $w_2 = 3''$; and $s = 10\frac{3}{16}''$. Then, from the Table of Bevels, $\sec a = 1.346$, $\csc a = 1.494$, $\tan a = .901$, and $\cot a = 1.110$. Therefore, $AB = 5'' \times 1.346 = 6\frac{3}{4}''$; $AD = 3'' \times 1.494 = 4\frac{1}{2}''$; $DC = 5'' \times .901 - 3'' \times 1.110 = 1.175'' = 1\frac{3}{16}''$; $EF = \frac{1.175'' \times 5}{8} = .734'' = \frac{3}{4}''$; and $AE = 5'' \times .901 - .734'' = 3\frac{3}{4}''$.

When $w_1 = w_2 = w$; then, $DC = w$ (tan $a$—cot $a$) $= 2w \cot (2a)$, $EF = \frac{1}{2} DC$, and $AE = \frac{w}{2}$(tan $a$+cot $a$) $= w \csc (2a)$.

PROBLEM X.—In Fig. 7 are given $s$, $a$, and $b$; and $AB$ and $AC$ are required.

SOLUTION.—There are three cases, as shown in ($a$), ($b$), and ($c$). The formulas to be applied in each case are given under the illustrations.

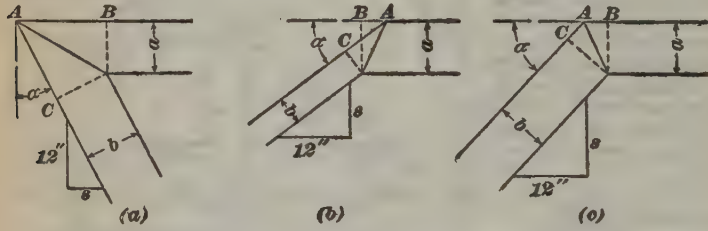


FIG 7.

| | | |
|---|---|---|
| $AC = (b + a \csc a) \tan a$ | $AC = (a \sec a - b) \cot a$ | $AB = (b \sec a - a) \cot a$ |
| $AB = (a + b \csc a) \tan a$ | $AB = (a - b \sec a) \cot a$ | $AC = (a \sec a - b) \cot a$ |

Let, for example, in Fig. 7 ($c$), $a = 20''$, $b = 18''$, and $s = 11\frac{1}{2}''$. Referring to the Table of Bevels, it is found that sec $a = 1.38506$. Therefore, $b \sec a - a = 18 \times 1.38506 - 20 = 4.9311$ and $a \sec a - b = 20 \times 1.38506 - 18 = 9.7012$. Hence, $AB = 4.9311 \times \cot a$ and $AC = 9.7012 \times \cot a$; whence,

$$\log AB = \log 4.9311 + \log \cot a$$

and

$$\log AC = \log 9.7012 + \log \cot a$$

According to the Table of Bevels, log cot $a = 0.01848$; hence,

$$\log AB = 0.69295 + 0.01848 = 0.71143 = \log 5.1455$$

and

$$\log AC = 0.98683 + 0.01848 = 1.00531 = \log 10.125$$

Therefore, $A\ B = 5\frac{1}{8}''$ and $A\ C = 10\frac{1}{8}''$.

These results were obtained by means of the Table of Common Logarithms and the Table of Decimal Equivalents. It is, however, simpler to subtract log 12 from the obtained log $A\ B$ and log $A\ C$, and obtain the results in inches directly from the Parallel Tables. Thus,

$$\log A\ B = 0.71143 - 1.07918 = 9.63225 = \log 5\tfrac{1}{8}''$$
$$\log A\ C = 1.00531 - 1.07918 = 9.92613 = \log 10\tfrac{1}{8}''$$

# Five-Decimal Logarithmic-Trigonometric Tables

## Natural Trigonometric Functions

Including Secant and Cosecant

## Squares, Cubes, Square Roots, Etc. Areas and Circumferences of Circles

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BY

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*Author of Parallel Tables of Logarithms and Squares*
*of Parallel Tables of Slopes and Rises, etc.*

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1930

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# PREFACE TO THIRD EDITION

The tables contained in this volume are reprints of Part Two of the author's Parallel Tables of Logarithms and Squares, published for the first time in 1901 and now in its ninth edition with a total issue of 27,000 copies.

The first edition of this reprint consisted only of a small number of copies intended to accommodate users of previous editions of the Parallel Tables of Logarithms and Squares which did not contain the Logarithmic-Trigonometric Tables, but without any effort in the way of advertising on the part of the publishers this little volume has worked its way into colleges, universities, high schools and vocational schools, and has become a widely used reference book and textbook. The new matter included in this edition will, it is believed, still more contribute to its usefulness.

The following tables have been added in this issue:

(1) Lengths of Arcs for Radius 1.
(2) Areas of Circles for Diameters in Units and Fractions.
(3) Circumferences of Circles for Diameters in Units and Fractions.

In addition, the Table of Constants Frequently Used in Computations has been revised and extended.

THE AUTHOR.

711 Monroe Avenue, Scranton, Pa.
January, 1920.

# PREFACE TO FIRST EDITION.

This set of logarithmic-trigonometric tables was originally designed as a counterpart to the author's "Parallel Tables of Logarithms and Squares." The new arrangement of the tables of log. functions, the typography and convenient size of the page, justify, we believe, its publication as a separate book.

The classic works of Gauss & Albrecht were taken as the basis for this work and the proofs were checked both before and after electrotyping.

CONSTANTINE SMOLEY.

673 N. Claremont Ave.,
CHICAGO, ILL., January, 1908.

# TABLE

## OF

# COMMON LOGARITHMS

## OF NUMBERS

## FROM 1 TO 10000

| N. | Log. | N. | Log. | N. | Log. | N. | Log. | N. | Log. |
|---|---|---|---|---|---|---|---|---|---|
| 0 | — | 20 | 1. 30 103 | 40 | 1. 60 206 | 60 | 1. 77 815 | 80 | 1. 90 309 |
| 1 | 0. 00 000 | 21 | 1. 32 222 | 41 | 1. 61 278 | 61 | 1. 78 533 | 81 | 1. 90 849 |
| 2 | 0. 30 103 | 22 | 1. 34 242 | 42 | 1. 62 325 | 62 | 1. 79 239 | 82 | 1. 91 381 |
| 3 | 0. 47 712 | 23 | 1. 36 173 | 43 | 1. 63 347 | 63 | 1. 79 934 | 83 | 1. 91 908 |
| 4 | 0. 60 206 | 24 | 1. 38 021 | 44 | 1. 64 345 | 64 | 1. 80 618 | 84 | 1. 92 428 |
| 5 | 0. 69 897 | 25 | 1. 39 794 | 45 | 1. 65 321 | 65 | 1. 81 291 | 85 | 1. 92 942 |
| 6 | 0. 77 815 | 26 | 1. 41 497 | 46 | 1. 66 276 | 66 | 1. 81 954 | 86 | 1. 93 450 |
| 7 | 0. 84 510 | 27 | 1. 43 136 | 47 | 1. 67 210 | 67 | 1. 82 607 | 87 | 1. 93 952 |
| 8 | 0. 90 309 | 28 | 1. 44 716 | 48 | 1. 68 124 | 68 | 1. 83 251 | 88 | 1. 94 448 |
| 9 | 0. 95 424 | 29 | 1. 46 240 | 49 | 1. 69 020 | 69 | 1. 83 885 | 89 | 1. 94 939 |
| 10 | 1. 00 000 | 30 | 1. 47 712 | 50 | 1. 69 897 | 70 | 1. 84 510 | 90 | 1. 95 424 |
| 11 | 1. 04 139 | 31 | 1. 49 136 | 51 | 1. 70 757 | 71 | 1. 85 126 | 91 | 1. 95 904 |
| 12 | 1. 07 918 | 32 | 1. 50 515 | 52 | 1. 71 600 | 72 | 1. 85 733 | 92 | 1. 96 379 |
| 13 | 1. 11 394 | 33 | 1. 51 851 | 53 | 1. 72 428 | 73 | 1. 86 332 | 93 | 1. 96 848 |
| 14 | 1. 14 613 | 34 | 1. 53 148 | 54 | 1. 73 239 | 74 | 1. 86 923 | 94 | 1. 97 313 |
| 15 | 1. 17 609 | 35 | 1. 54 407 | 55 | 1. 74 036 | 75 | 1. 87 506 | 95 | 1. 97 772 |
| 16 | 1. 20 412 | 36 | 1. 55 630 | 56 | 1. 74 819 | 76 | 1. 88 081 | 96 | 1. 98 227 |
| 17 | 1. 23 045 | 37 | 1. 56 820 | 57 | 1. 75 587 | 77 | 1. 88 649 | 97 | 1. 98 677 |
| 18 | 1. 25 527 | 38 | 1. 57 978 | 58 | 1. 76 343 | 78 | 1. 89 209 | 98 | 1. 99 123 |
| 19 | 1. 27 875 | 39 | 1. 59 106 | 59 | 1. 77 085 | 79 | 1. 89 763 | 99 | 1. 99 564 |
| 20 | 1. 30 103 | 40 | 1. 60 206 | 60 | 1. 77 815 | 80 | 1. 90 309 | 100 | 2. 00 000 |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 00 000 | 043 | 087 | 130 | 173 | 217 | 260 | 303 | 346 | 389 |
| 101 | 432 | 475 | 518 | 561 | 604 | 647 | 689 | 732 | 775 | 817 |
| 102 | 860 | 903 | 945 | 988 | *030 | *072 | *115 | *157 | *199 | *242 |
| 103 | 01 284 | 326 | 368 | 410 | 452 | 494 | 536 | 578 | 620 | 662 |
| 104 | 703 | 745 | 787 | 828 | 870 | 912 | 953 | 995 | *036 | *078 |
| 105 | 02 119 | 160 | 202 | 243 | 284 | 325 | 366 | 407 | 449 | 490 |
| 106 | 531 | 572 | 612 | 653 | 694 | 735 | 776 | 816 | 857 | 898 |
| 107 | 938 | 979 | *019 | *060 | *100 | *141 | *181 | *222 | *262 | *302 |
| 108 | 03 342 | 383 | 423 | 463 | 503 | 543 | 583 | 623 | 663 | 703 |
| 109 | 743 | 782 | 822 | 862 | 902 | 941 | 981 | *021 | *060 | *100 |
| 110 | 04 139 | 179 | 218 | 258 | 297 | 336 | 376 | 415 | 454 | 493 |
| 111 | 532 | 571 | 610 | 650 | 689 | 727 | 766 | 805 | 844 | 883 |
| 112 | 922 | 961 | 999 | *038 | *077 | *115 | *154 | *192 | *231 | *269 |
| 113 | 05 308 | 346 | 385 | 423 | 461 | 500 | 538 | 576 | 614 | 652 |
| 114 | 690 | 729 | 767 | 805 | 843 | 881 | 918 | 956 | 994 | *032 |
| 115 | 06 070 | 108 | 145 | 183 | 221 | 258 | 296 | 333 | 371 | 408 |
| 116 | 446 | 483 | 521 | 558 | 595 | 633 | 670 | 707 | 744 | 781 |
| 117 | 819 | 856 | 893 | 930 | 967 | *004 | *041 | *078 | *115 | *151 |
| 118 | 07 188 | 225 | 262 | 298 | 335 | 372 | 408 | 445 | 482 | 518 |
| 119 | 555 | 591 | 628 | 664 | 700 | 737 | 773 | 809 | 846 | 882 |
| 120 | 918 | 954 | 990 | *027 | *063 | *099 | *135 | *171 | *207 | *243 |
| 121 | 08 279 | 314 | 350 | 386 | 422 | 458 | 493 | 529 | 565 | 600 |
| 122 | 636 | 672 | 707 | 743 | 778 | 814 | 849 | 884 | 920 | 955 |
| 123 | 991 | *026 | *061 | *096 | *132 | *167 | *202 | *237 | *272 | *307 |
| 124 | 09 342 | 377 | 412 | 447 | 482 | 517 | 552 | 587 | 621 | 656 |
| 125 | 691 | 726 | 760 | 795 | 830 | 864 | 899 | 934 | 968 | *003 |
| 126 | 10 037 | 072 | 106 | 140 | 175 | 209 | 243 | 278 | 312 | 346 |
| 127 | 380 | 415 | 449 | 483 | 517 | 551 | 585 | 619 | 653 | 687 |
| 128 | 721 | 755 | 789 | 823 | 857 | 890 | 924 | 958 | 992 | *025 |
| 129 | 11 059 | 093 | 126 | 160 | 193 | 227 | 261 | 294 | 327 | 361 |
| 130 | 394 | 428 | 461 | 494 | 528 | 561 | 594 | 628 | 661 | 694 |
| 131 | 727 | 760 | 793 | 826 | 860 | 893 | 926 | 959 | 992 | *024 |
| 132 | 12 057 | 090 | 123 | 156 | 189 | 222 | 254 | 287 | 320 | 352 |
| 133 | 385 | 418 | 450 | 483 | 516 | 548 | 581 | 613 | 646 | 678 |
| 134 | 710 | 743 | 775 | 808 | 840 | 872 | 905 | 937 | 969 | *001 |
| 135 | 13 033 | 066 | 098 | 130 | 162 | 194 | 226 | 258 | 290 | 322 |
| 136 | 354 | 386 | 418 | 450 | 481 | 513 | 545 | 577 | 609 | 640 |
| 137 | 672 | 704 | 735 | 767 | 799 | 830 | 862 | 893 | 925 | 956 |
| 138 | 988 | *019 | *051 | *082 | *114 | *145 | *176 | *208 | *239 | *270 |
| 139 | 14 301 | 333 | 364 | 395 | 426 | 457 | 489 | 520 | 551 | 582 |
| 140 | 613 | 644 | 675 | 706 | 737 | 768 | 799 | 829 | 860 | 891 |
| 141 | 922 | 953 | 983 | *014 | *045 | *076 | *106 | *137 | *168 | *198 |
| 142 | 15 229 | 259 | 290 | 320 | 351 | 381 | 412 | 442 | 473 | 503 |
| 143 | 534 | 564 | 594 | 625 | 655 | 685 | 715 | 746 | 776 | 806 |
| 144 | 836 | 866 | 897 | 927 | 957 | 987 | *017 | *047 | *077 | *107 |
| 145 | 16 137 | 167 | 197 | 227 | 256 | 286 | 316 | 346 | 376 | 406 |
| 146 | 435 | 465 | 495 | 524 | 554 | 584 | 613 | 643 | 673 | 702 |
| 147 | 732 | 761 | 791 | 820 | 850 | 879 | 909 | 938 | 967 | 997 |
| 148 | 17 026 | 056 | 085 | 114 | 143 | 173 | 202 | 231 | 260 | 289 |
| 149 | 319 | 348 | 377 | 406 | 435 | 464 | 493 | 522 | 551 | 580 |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| PP. | | | |
|---|---|---|---|
| | 44 | 43 | 42 |
| 1 | 4.4 | 4.3 | 4.2 |
| 2 | 8.8 | 8.6 | 8.4 |
| 3 | 13.2 | 12.9 | 12.6 |
| 4 | 17.6 | 17.2 | 16.8 |
| 5 | 22.0 | 21.5 | 21.0 |
| 6 | 26.4 | 25.8 | 25.2 |
| 7 | 30.8 | 30.1 | 29.4 |
| 8 | 35.2 | 34.4 | 33.6 |
| 9 | 39.6 | 38.7 | 37.8 |
| | 41 | 40 | 39 |
| 1 | 4.1 | 4.0 | 3.9 |
| 2 | 8.2 | 8.0 | 7.8 |
| 3 | 12.3 | 12.0 | 11.7 |
| 4 | 16.4 | 16.0 | 15.6 |
| 5 | 20.5 | 20.0 | 19.5 |
| 6 | 24.6 | 24.0 | 23.4 |
| 7 | 28.7 | 28.0 | 27.3 |
| 8 | 32.8 | 32.0 | 31.2 |
| 9 | 36.9 | 36.0 | 35.1 |
| | 38 | 37 | 36 |
| 1 | 3.8 | 3.7 | 3.6 |
| 2 | 7.6 | 7.4 | 7.2 |
| 3 | 11.4 | 11.1 | 10.8 |
| 4 | 15.2 | 14.8 | 14.4 |
| 5 | 19.0 | 18.5 | 18.0 |
| 6 | 22.8 | 22.2 | 21.6 |
| 7 | 26.6 | 25.9 | 25.2 |
| 8 | 30.4 | 29.6 | 28.8 |
| 9 | 34.2 | 33.3 | 32.4 |
| | 35 | 34 | 33 |
| 1 | 3.5 | 3.4 | 3.3 |
| 2 | 7.0 | 6.8 | 6.6 |
| 3 | 10.5 | 10.2 | 9.9 |
| 4 | 14.0 | 13.6 | 13.2 |
| 5 | 17.5 | 17.0 | 16.5 |
| 6 | 21.0 | 20.4 | 19.8 |
| 7 | 24.5 | 23.8 | 23.1 |
| 8 | 28.0 | 27.2 | 26.4 |
| 9 | 31.5 | 30.6 | 29.7 |
| | 32 | 31 | 30 |
| 1 | 3.2 | 3.1 | 3.0 |
| 2 | 6.4 | 6.2 | 6.0 |
| 3 | 9.6 | 9.3 | 9.0 |
| 4 | 12.8 | 12.4 | 12.0 |
| 5 | 16.0 | 15.5 | 15.0 |
| 6 | 19.2 | 18.6 | 18.0 |
| 7 | 22.4 | 21.7 | 21.0 |
| 8 | 25.6 | 24.8 | 24.0 |
| 9 | 28.8 | 27.9 | 27.0 |

PP.

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 17 609 | 638 | 667 | 696 | 725 | 754 | 782 | 811 | 840 | 869 |
| 151 | 898 | 926 | 955 | 984 | *013 | *041 | *070 | *099 | *127 | *156 |
| 152 | 18 184 | 213 | 241 | 270 | 298 | 327 | 355 | 384 | 412 | 441 |
| 153 | 469 | 498 | 526 | 554 | 583 | 611 | 639 | 667 | 696 | 724 |
| 154 | 752 | 780 | 808 | 837 | 865 | 893 | 921 | 949 | 977 | *005 |
| 155 | 19 033 | 061 | 089 | 117 | 145 | 173 | 201 | 229 | 257 | 285 |
| 156 | 312 | 340 | 368 | 396 | 424 | 451 | 479 | 507 | 535 | 562 |
| 157 | 590 | 618 | 645 | 673 | 700 | 728 | 756 | 783 | 811 | 838 |
| 158 | 866 | 893 | 921 | 948 | 976 | *003 | *030 | *058 | *085 | *112 |
| 159 | 20 140 | 167 | 194 | 222 | 249 | 276 | 303 | 330 | 358 | 385 |
| 160 | 412 | 439 | 466 | 493 | 520 | 548 | 575 | 602 | 629 | 656 |
| 161 | 683 | 710 | 737 | 763 | 790 | 817 | 844 | 871 | 898 | 925 |
| 162 | 952 | 978 | *005 | *032 | *059 | *085 | *112 | *139 | *165 | *192 |
| 163 | 21 219 | 245 | 272 | 299 | 325 | 352 | 378 | 405 | 431 | 458 |
| 164 | 484 | 511 | 537 | 564 | 590 | 617 | 643 | 669 | 696 | 722 |
| 165 | 748 | 775 | 801 | 827 | 854 | 880 | 906 | 932 | 958 | 985 |
| 166 | 22 011 | 037 | 063 | 089 | 115 | 141 | 167 | 194 | 220 | 246 |
| 167 | 272 | 298 | 324 | 350 | 376 | 401 | 427 | 453 | 479 | 505 |
| 168 | 531 | 557 | 583 | 608 | 634 | 660 | 686 | 712 | 737 | 763 |
| 169 | 789 | 814 | 840 | 866 | 891 | 917 | 943 | 968 | 994 | *019 |
| 170 | 23 045 | 070 | 096 | 121 | 147 | 172 | 198 | 223 | 249 | 274 |
| 171 | 300 | 325 | 350 | 376 | 401 | 426 | 452 | 477 | 502 | 528 |
| 172 | 553 | 578 | 603 | 629 | 654 | 679 | 704 | 729 | 754 | 779 |
| 173 | 805 | 830 | 855 | 880 | 905 | 930 | 955 | 980 | *005 | *030 |
| 174 | 24 055 | 080 | 105 | 130 | 155 | 180 | 204 | 229 | 254 | 279 |
| 175 | 304 | 329 | 353 | 378 | 403 | 428 | 452 | 477 | 502 | 527 |
| 176 | 551 | 576 | 601 | 625 | 650 | 674 | 699 | 724 | 748 | 773 |
| 177 | 797 | 822 | 846 | 871 | 895 | 920 | 944 | 969 | 993 | *018 |
| 178 | 25 042 | 066 | 091 | 115 | 139 | 164 | 188 | 212 | 237 | 261 |
| 179 | 285 | 310 | 334 | 358 | 382 | 406 | 431 | 455 | 479 | 503 |
| 180 | 527 | 551 | 575 | 600 | 624 | 648 | 672 | 696 | 720 | 744 |
| 181 | 768 | 792 | 816 | 840 | 864 | 888 | 912 | 935 | 959 | 983 |
| 182 | 26 007 | 031 | 055 | 079 | 102 | 126 | 150 | 174 | 198 | 221 |
| 183 | 245 | 269 | 293 | 316 | 340 | 364 | 387 | 411 | 435 | 458 |
| 184 | 482 | 505 | 529 | 553 | 576 | 600 | 623 | 647 | 670 | 694 |
| 185 | 717 | 741 | 764 | 788 | 811 | 834 | 858 | 881 | 905 | 928 |
| 186 | 951 | 975 | 998 | *021 | *045 | *068 | *091 | *114 | *138 | *161 |
| 187 | 27 184 | 207 | 231 | 254 | 277 | 300 | 323 | 346 | 370 | 393 |
| 188 | 416 | 439 | 462 | 485 | 508 | 531 | 554 | 577 | 600 | 623 |
| 189 | 646 | 669 | 692 | 715 | 738 | 761 | 784 | 807 | 830 | 852 |
| 190 | 875 | 898 | 921 | 944 | 967 | 989 | *012 | *035 | *058 | *081 |
| 191 | 28 103 | 126 | 149 | 171 | 194 | 217 | 240 | 262 | 285 | 307 |
| 192 | 330 | 353 | 375 | 398 | 421 | 443 | 466 | 488 | 511 | 533 |
| 193 | 556 | 578 | 601 | 623 | 646 | 668 | 691 | 713 | 735 | 758 |
| 194 | 780 | 803 | 825 | 847 | 870 | 892 | 914 | 937 | 959 | 981 |
| 195 | 29 003 | 026 | 048 | 070 | 092 | 115 | 137 | 159 | 181 | 203 |
| 196 | 226 | 248 | 270 | 292 | 314 | 336 | 358 | 380 | 403 | 425 |
| 197 | 447 | 469 | 491 | 513 | 535 | 557 | 579 | 601 | 623 | 645 |
| 198 | 667 | 688 | 710 | 732 | 754 | 776 | 798 | 820 | 842 | 863 |
| 199 | 885 | 907 | 929 | 951 | 973 | 994 | *016 | *038 | *060 | *081 |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| PP. | | |
|---|---|---|
| | 29 | 28 |
| 1 | 2 9 | 2.8 |
| 2 | 5.8 | 5.6 |
| 3 | 8.7 | 8.4 |
| 4 | 11.6 | 11.2 |
| 5 | 14.5 | 14.0 |
| 6 | 17.4 | 16.8 |
| 7 | 20.3 | 19.6 |
| 8 | 23.2 | 22.4 |
| 9 | 26.1 | 25.2 |
| | 27 | 26 |
| 1 | 2.7 | 2.6 |
| 2 | 5.4 | 5.2 |
| 3 | 8.1 | 7.8 |
| 4 | 10.8 | 10.4 |
| 5 | 13.5 | 13.0 |
| 6 | 16.2 | 15.6 |
| 7 | 18.9 | 18.2 |
| 8 | 21.6 | 20.8 |
| 9 | 24.3 | 23.4 |
| | 25 | |
| 1 | 2.5 | |
| 2 | 5.0 | |
| 3 | 7.5 | |
| 4 | 10.0 | |
| 5 | 12.5 | |
| 6 | 15.0 | |
| 7 | 17.5 | |
| 8 | 20.0 | |
| 9 | 22.5 | |
| | 24 | 23 |
| 1 | 2.4 | 2.3 |
| 2 | 4.8 | 4.6 |
| 3 | 7.2 | 6.9 |
| 4 | 9.6 | 9.2 |
| 5 | 12.0 | 11.5 |
| 6 | 14.4 | 13.8 |
| 7 | 16.8 | 16.1 |
| 8 | 19.2 | 18.4 |
| 9 | 21.6 | 20.7 |
| | 22 | 21 |
| 1 | 2.2 | 2.1 |
| 2 | 4.4 | 4.2 |
| 3 | 6.6 | 6.3 |
| 4 | 8.8 | 8.4 |
| 5 | 11.0 | 10.5 |
| 6 | 13.2 | 12.6 |
| 7 | 15.4 | 14.7 |
| 8 | 17.6 | 16.8 |
| 9 | 19.8 | 18.9 |

| N. | PP. |
|---|---|

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 30 103 | 125 | 146 | 168 | 190 | 211 | 233 | 255 | 276 | 298 |
| 201 | 320 | 341 | 363 | 384 | 406 | 428 | 449 | 471 | 492 | 514 |
| 202 | 535 | 557 | 578 | 600 | 621 | 643 | 664 | 685 | 707 | 728 |
| 203 | 750 | 771 | 792 | 814 | 835 | 856 | 878 | 899 | 920 | 942 |
| 204 | 963 | 984 | *006 | *027 | *048 | *069 | *091 | *112 | *133 | *154 |
| 205 | 31 175 | 197 | 218 | 239 | 260 | 281 | 302 | 323 | 345 | 366 |
| 206 | 387 | 408 | 429 | 450 | 471 | 492 | 513 | 534 | 555 | 576 |
| 207 | 597 | 618 | 639 | 660 | 681 | 702 | 723 | 744 | 765 | 785 |
| 208 | 806 | 827 | 848 | 869 | 890 | 911 | 931 | 952 | 973 | 994 |
| 209 | 32 015 | 035 | 056 | 077 | 098 | 118 | 139 | 160 | 181 | 201 |
| 210 | 222 | 243 | 263 | 284 | 305 | 325 | 346 | 366 | 387 | 408 |
| 211 | 428 | 449 | 469 | 490 | 510 | 531 | 552 | 572 | 593 | 613 |
| 212 | 634 | 654 | 675 | 695 | 715 | 736 | 756 | 777 | 797 | 818 |
| 213 | 838 | 858 | 879 | 899 | 919 | 940 | 960 | 980 | *001 | *021 |
| 214 | 33 041 | 062 | 082 | 102 | 122 | 143 | 163 | 183 | 203 | 224 |
| 215 | 244 | 264 | 284 | 304 | 325 | 345 | 365 | 385 | 405 | 425 |
| 216 | 445 | 465 | 486 | 506 | 526 | 546 | 566 | 586 | 606 | 626 |
| 217 | 646 | 666 | 686 | 706 | 726 | 746 | 766 | 786 | 806 | 826 |
| 218 | 846 | 866 | 885 | 905 | 925 | 945 | 965 | 985 | *005 | *025 |
| 219 | 34 044 | 064 | 084 | 104 | 124 | 143 | 163 | 183 | 203 | 223 |
| 220 | 242 | 262 | 282 | 301 | 321 | 341 | 361 | 380 | 400 | 420 |
| 221 | 439 | 459 | 479 | 498 | 518 | 537 | 557 | 577 | 596 | 616 |
| 222 | 635 | 655 | 674 | 694 | 713 | 733 | 753 | 772 | 792 | 811 |
| 223 | 830 | 850 | 869 | 889 | 908 | 928 | 947 | 967 | 986 | *005 |
| 224 | 35 025 | 044 | 064 | 083 | 102 | 122 | 141 | 160 | 180 | 199 |
| 225 | 218 | 238 | 257 | 276 | 295 | 315 | 334 | 353 | 372 | 392 |
| 226 | 411 | 430 | 449 | 468 | 488 | 507 | 526 | 545 | 564 | 583 |
| 227 | 603 | 622 | 641 | 660 | 679 | 698 | 717 | 736 | 755 | 774 |
| 228 | 793 | 813 | 832 | 851 | 870 | 889 | 908 | 927 | 946 | 965 |
| 229 | 984 | *003 | *021 | *040 | *059 | *078 | *097 | *116 | *135 | *154 |
| 230 | 36 173 | 192 | 211 | 229 | 248 | 267 | 286 | 305 | 324 | 342 |
| 231 | 361 | 380 | 399 | 418 | 436 | 455 | 474 | 493 | 511 | 530 |
| 232 | 549 | 568 | 586 | 605 | 624 | 642 | 661 | 680 | 698 | 717 |
| 233 | 736 | 754 | 773 | 791 | 810 | 829 | 847 | 866 | 884 | 903 |
| 234 | 922 | 940 | 959 | 977 | 996 | *014 | *033 | *051 | *070 | *088 |
| 235 | 37 107 | 125 | 144 | 162 | 181 | 199 | 218 | 236 | 254 | 273 |
| 236 | 291 | 310 | 328 | 346 | 365 | 383 | 401 | 420 | 438 | 457 |
| 237 | 475 | 493 | 511 | 530 | 548 | 566 | 585 | 603 | 621 | 639 |
| 238 | 658 | 676 | 694 | 712 | 731 | 749 | 767 | 785 | 803 | 822 |
| 239 | 840 | 858 | 876 | 894 | 912 | 931 | 949 | 967 | 985 | *003 |
| 240 | 38 021 | 039 | 057 | 075 | 093 | 112 | 130 | 148 | 166 | 184 |
| 241 | 202 | 220 | 238 | 256 | 274 | 292 | 310 | 328 | 346 | 364 |
| 242 | 382 | 399 | 417 | 435 | 453 | 471 | 489 | 507 | 525 | 543 |
| 243 | 561 | 578 | 596 | 614 | 632 | 650 | 668 | 686 | 703 | 721 |
| 244 | 739 | 757 | 775 | 792 | 810 | 828 | 846 | 863 | 881 | 899 |
| 245 | 917 | 934 | 952 | 970 | 987 | *005 | *023 | *041 | *058 | *076 |
| 246 | 39 094 | 111 | 129 | 146 | 164 | 182 | 199 | 217 | 235 | 252 |
| 247 | 270 | 287 | 305 | 322 | 340 | 358 | 375 | 393 | 410 | 428 |
| 248 | 445 | 463 | 480 | 498 | 515 | 533 | 550 | 568 | 585 | 602 |
| 249 | 620 | 637 | 655 | 672 | 690 | 707 | 724 | 742 | 759 | 777 |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| PP. | | |
|---|---|---|
| | 22 | 21 |
| 1 | 2.2 | 2.1 |
| 2 | 4.4 | 4.2 |
| 3 | 6.6 | 6.3 |
| 4 | 8.8 | 8.4 |
| 5 | 11.0 | 10.5 |
| 6 | 13.2 | 12.6 |
| 7 | 15.4 | 14.7 |
| 8 | 17.6 | 16.8 |
| 9 | 19.8 | 18.9 |

| PP. | 20 |
|---|---|
| 1 | 2.0 |
| 2 | 4.0 |
| 3 | 6.0 |
| 4 | 8.0 |
| 5 | 10.0 |
| 6 | 12.0 |
| 7 | 14.0 |
| 8 | 16.0 |
| 9 | 18.0 |

| PP. | 19 |
|---|---|
| 1 | 1.9 |
| 2 | 3.8 |
| 3 | 5.7 |
| 4 | 7.6 |
| 5 | 9.5 |
| 6 | 11.4 |
| 7 | 13.3 |
| 8 | 15.2 |
| 9 | 17.1 |

| PP. | 18 |
|---|---|
| 1 | 1.8 |
| 2 | 3.6 |
| 3 | 5.4 |
| 4 | 7.2 |
| 5 | 9.0 |
| 6 | 10.8 |
| 7 | 12.6 |
| 8 | 14.4 |
| 9 | 16.2 |

| PP. | 17 |
|---|---|
| 1 | 1.7 |
| 2 | 3.4 |
| 3 | 5.1 |
| 4 | 6.8 |
| 5 | 8.5 |
| 6 | 10.2 |
| 7 | 11.9 |
| 8 | 13.6 |
| 9 | 15.3 |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| **250** | **39 794** | **811** | **829** | **846** | **863** | **881** | **898** | **915** | **933** | **950** |
| 251 | 967 | 985 | *002 | *019 | *037 | *054 | *071 | *088 | *106 | *123 |
| 252 | 40 140 | 157 | 175 | 192 | 209 | 226 | 243 | 261 | 278 | 295 |
| 253 | 312 | 329 | 346 | 364 | 381 | 398 | 415 | 432 | 449 | 466 |
| 254 | 483 | 500 | 518 | 535 | 552 | 569 | 586 | 603 | 620 | 637 |
| **255** | **654** | **671** | **688** | **705** | **722** | **739** | **756** | **773** | **790** | **807** |
| 256 | 824 | 841 | 858 | 875 | 892 | 909 | 926 | 943 | 960 | 976 |
| 257 | 993 | *010 | *027 | *044 | *061 | *078 | *095 | *111 | *128 | *145 |
| 258 | 41 162 | 179 | 196 | 212 | 229 | 246 | 263 | 280 | 296 | 313 |
| 259 | 330 | 347 | 363 | 380 | 397 | 414 | 430 | 447 | 464 | 481 |
| **260** | **497** | **514** | **531** | **547** | **564** | **581** | **597** | **614** | **631** | **647** |
| 261 | 664 | 681 | 697 | 714 | 731 | 747 | 764 | 780 | 797 | 814 |
| 262 | 830 | 847 | 863 | 880 | 896 | 913 | 929 | 946 | 963 | 979 |
| 263 | 996 | *012 | *029 | *045 | *062 | *078 | *095 | *111 | *127 | *144 |
| 264 | 42 160 | 177 | 193 | 210 | 226 | 243 | 259 | 275 | 292 | 308 |
| **265** | **325** | **341** | **357** | **374** | **390** | **406** | **423** | **439** | **455** | **472** |
| 266 | 488 | 504 | 521 | 537 | 553 | 570 | 586 | 602 | 619 | 635 |
| 267 | 651 | 667 | 684 | 700 | 716 | 732 | 749 | 765 | 781 | 797 |
| 268 | 813 | 830 | 846 | 862 | 878 | 894 | 911 | 927 | 943 | 959 |
| 269 | 975 | 991 | *008 | *024 | *040 | *056 | *072 | *088 | *104 | *120 |
| **270** | **43 136** | **152** | **169** | **185** | **201** | **217** | **233** | **249** | **265** | **281** |
| 271 | 297 | 313 | 329 | 345 | 361 | 377 | 393 | 409 | 425 | 441 |
| 272 | 457 | 473 | 489 | 505 | 521 | 537 | 553 | 569 | 584 | 600 |
| 273 | 616 | 632 | 648 | 664 | 680 | 696 | 712 | 727 | 743 | 759 |
| 274 | 775 | 791 | 807 | 823 | 838 | 854 | 870 | 886 | 902 | 917 |
| **275** | **933** | **949** | **965** | **981** | **996** | ***012** | ***028** | ***044** | ***059** | ***075** |
| 276 | 44 091 | 107 | 122 | 138 | 154 | 170 | 185 | 201 | 217 | 232 |
| 277 | 248 | 264 | 279 | 295 | 311 | 326 | 342 | 358 | 373 | 389 |
| 278 | 404 | 420 | 436 | 451 | 467 | 483 | 498 | 514 | 529 | 545 |
| 279 | 560 | 576 | 592 | 607 | 623 | 638 | 654 | 669 | 685 | 700 |
| **280** | **716** | **731** | **747** | **762** | **778** | **793** | **809** | **824** | **840** | **855** |
| 281 | 871 | 886 | 902 | 917 | 932 | 948 | 963 | 979 | 994 | *010 |
| 282 | 45 025 | 040 | 056 | 071 | 086 | 102 | 117 | 133 | 148 | 163 |
| 283 | 179 | 194 | 209 | 225 | 240 | 255 | 271 | 286 | 301 | 317 |
| 284 | 332 | 347 | 362 | 378 | 393 | 408 | 423 | 439 | 454 | 469 |
| **285** | **484** | **500** | **515** | **530** | **545** | **561** | **576** | **591** | **606** | **621** |
| 286 | 637 | 652 | 667 | 682 | 697 | 712 | 728 | 743 | 758 | 773 |
| 287 | 788 | 803 | 818 | 834 | 849 | 864 | 879 | 894 | 909 | 924 |
| 288 | 939 | 954 | 969 | 984 | *000 | *015 | *030 | *045 | *060 | *075 |
| 289 | 46 090 | 105 | 120 | 135 | 150 | 165 | 180 | 195 | 210 | 225 |
| **290** | **240** | **255** | **270** | **285** | **300** | **315** | **330** | **345** | **359** | **374** |
| 291 | 389 | 404 | 419 | 434 | 449 | 464 | 479 | 494 | 509 | 523 |
| 292 | 538 | 553 | 568 | 583 | 598 | 613 | 627 | 642 | 657 | 672 |
| 293 | 687 | 702 | 716 | 731 | 746 | 761 | 776 | 790 | 805 | 820 |
| 294 | 835 | 850 | 864 | 879 | 894 | 909 | 923 | 938 | 953 | 967 |
| **295** | **982** | **997** | ***012** | ***026** | ***041** | ***056** | ***070** | ***085** | ***100** | ***114** |
| 296 | 47 129 | 144 | 159 | 173 | 188 | 202 | 217 | 232 | 246 | 261 |
| 297 | 276 | 290 | 305 | 319 | 334 | 349 | 363 | 378 | 392 | 407 |
| 298 | 422 | 436 | 451 | 465 | 480 | 494 | 509 | 524 | 538 | 553 |
| 299 | 567 | 582 | 596 | 611 | 625 | 640 | 654 | 669 | 683 | 698 |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| PP. | |
|---|---|
| **18** | |
| 1 | 1.8 |
| 2 | 3.6 |
| 3 | 5.4 |
| 4 | 7.2 |
| 5 | 9.0 |
| 6 | 10.8 |
| 7 | 12.6 |
| 8 | 14.4 |
| 9 | 16.2 |
| **17** | |
| 1 | 1.7 |
| 2 | 3.4 |
| 3 | 5.1 |
| 4 | 6.8 |
| 5 | 8.5 |
| 6 | 10.2 |
| 7 | 11.9 |
| 8 | 13.6 |
| 9 | 15.3 |
| **16** | |
| 1 | 1.6 |
| 2 | 3.2 |
| 3 | 4.8 |
| 4 | 6.4 |
| 5 | 8.0 |
| 6 | 9.6 |
| 7 | 11.2 |
| 8 | 12.8 |
| 9 | 14.4 |
| **15** | |
| 1 | 1.5 |
| 2 | 3.0 |
| 3 | 4.5 |
| 4 | 6.0 |
| 5 | 7.5 |
| 6 | 9.0 |
| 7 | 10.5 |
| 8 | 12.0 |
| 9 | 13.5 |
| **14** | |
| 1 | 1.4 |
| 2 | 2.8 |
| 3 | 4.2 |
| 4 | 5.6 |
| 5 | 7.0 |
| 6 | 8.4 |
| 7 | 9.8 |
| 8 | 11.2 |
| 9 | 12.6 |

| PP. |
|---|

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **300** | **47 712** | **727** | **741** | **756** | **770** | **784** | **799** | **813** | **828** | **842** | |
| 301 | 857 | 871 | 885 | 900 | 914 | 929 | 943 | 958 | 972 | 986 | |
| 302 | 48 001 | 015 | 029 | 044 | 058 | 073 | 087 | 101 | 116 | 130 | |
| 303 | 144 | 159 | 173 | 187 | 202 | 216 | 230 | 244 | 259 | 273 | |
| 304 | 287 | 302 | 316 | 330 | 344 | 359 | 373 | 387 | 401 | 416 | |
| **305** | **430** | **444** | **458** | **473** | **487** | **501** | **515** | **530** | **544** | **558** | **15** |
| 306 | 572 | 586 | 601 | 615 | 629 | 643 | 657 | 671 | 686 | 700 | 1 1.5 |
| 307 | 714 | 728 | 742 | 756 | 770 | 785 | 799 | 813 | 827 | 841 | 2 3.0 |
| 308 | 855 | 869 | 883 | 897 | 911 | 926 | 940 | 954 | 968 | 982 | 3 4.5 |
| 309 | 996 | *010 | *024 | *038 | *052 | *066 | *080 | *094 | *108 | *122 | 4 6.0 |
| **310** | **49 136** | **150** | **164** | **178** | **192** | **206** | **220** | **234** | **248** | **262** | 5 7.5 |
| 311 | 276 | 290 | 304 | 318 | 332 | 346 | 360 | 374 | 388 | 402 | 6 9.0 |
| 312 | 415 | 429 | 443 | 457 | 471 | 485 | 499 | 513 | 527 | 541 | 7 10.5 |
| 313 | 554 | 568 | 582 | 596 | 610 | 624 | 638 | 651 | 665 | 679 | 8 12.0 |
| 314 | 693 | 707 | 721 | 734 | 748 | 762 | 776 | 790 | 803 | 817 | 9 13.5 |
| **315** | **831** | **845** | **859** | **872** | **886** | **900** | **914** | **927** | **941** | **955** | |
| 316 | 969 | 982 | 996 | *010 | *024 | *037 | *051 | *065 | *079 | *092 | **14** |
| 317 | 50 106 | 120 | 133 | 147 | 161 | 174 | 188 | 202 | 215 | 229 | 1 1.4 |
| 318 | 243 | 256 | 270 | 284 | 297 | 311 | 325 | 338 | 352 | 365 | 2 2.8 |
| 319 | 379 | 393 | 406 | 420 | 433 | 447 | 461 | 474 | 488 | 501 | 3 4.2 |
| **320** | **515** | **529** | **542** | **556** | **569** | **583** | **596** | **610** | **623** | **637** | 4 5.6 |
| 321 | 651 | 664 | 678 | 691 | 705 | 718 | 732 | 745 | 759 | 772 | 5 7.0 |
| 322 | 786 | 799 | 813 | 826 | 840 | 853 | 866 | 880 | 893 | 907 | 6 8.4 |
| 323 | 920 | 934 | 947 | 961 | 974 | 987 | *001 | *014 | *028 | *041 | 7 9.8 |
| 324 | 51 055 | 068 | 081 | 095 | 108 | 121 | 135 | 148 | 162 | 175 | 8 11.2 |
| **325** | **188** | **202** | **215** | **228** | **242** | **255** | **268** | **282** | **295** | **308** | 9 12.6 |
| 326 | 322 | 335 | 348 | 362 | 375 | 388 | 402 | 415 | 428 | 441 | |
| 327 | 455 | 468 | 481 | 495 | 508 | 521 | 534 | 548 | 561 | 574 | **13** |
| 328 | 587 | 601 | 614 | 627 | 640 | 654 | 667 | 680 | 693 | 706 | 1 1.3 |
| 329 | 720 | 733 | 746 | 759 | 772 | 786 | 799 | 812 | 825 | 838 | 2 2.6 |
| **330** | **851** | **865** | **878** | **891** | **904** | **917** | **930** | **943** | **957** | **970** | 3 3.9 |
| 331 | 983 | 996 | *009 | *022 | *035 | *048 | *061 | *075 | *088 | *101 | 4 5.2 |
| 332 | 52 114 | 127 | 140 | 153 | 166 | 179 | 192 | 205 | 218 | 231 | 5 6.5 |
| 333 | 244 | 257 | 270 | 284 | 297 | 310 | 323 | 336 | 349 | 362 | 6 7.8 |
| 334 | 375 | 388 | 401 | 414 | 427 | 440 | 453 | 466 | 479 | 492 | 7 9.1 |
| **335** | **504** | **517** | **530** | **543** | **556** | **569** | **582** | **595** | **608** | **621** | 8 10.4 |
| 336 | 634 | 647 | 660 | 673 | 686 | 699 | 711 | 724 | 737 | 750 | 9 11.7 |
| 337 | 763 | 776 | 789 | 802 | 815 | 827 | 840 | 853 | 866 | 879 | |
| 338 | 892 | 905 | 917 | 930 | 943 | 956 | 969 | 982 | 994 | *007 | **12** |
| 339 | 53 020 | 033 | 046 | 058 | 071 | 084 | 097 | 110 | 122 | 135 | 1 1.2 |
| **340** | **148** | **161** | **173** | **186** | **199** | **212** | **224** | **237** | **250** | **263** | 2 2.4 |
| 341 | 275 | 288 | 301 | 314 | 326 | 339 | 352 | 364 | 377 | 390 | 3 3.6 |
| 342 | 403 | 415 | 428 | 441 | 453 | 466 | 479 | 491 | 504 | 517 | 4 4.8 |
| 343 | 529 | 542 | 555 | 567 | 580 | 593 | 605 | 618 | 631 | 643 | 5 6.0 |
| 344 | 656 | 668 | 681 | 694 | 706 | 719 | 732 | 744 | 757 | 769 | 6 7.2 |
| **345** | **782** | **794** | **807** | **820** | **832** | **845** | **857** | **870** | **882** | **895** | 7 8.4 |
| 346 | 908 | 920 | 933 | 945 | 958 | 970 | 983 | 995 | *008 | *020 | 8 9.6 |
| 347 | 54 033 | 045 | 058 | 070 | 083 | 095 | 108 | 120 | 133 | 145 | 9 10.8 |
| 348 | 158 | 170 | 183 | 195 | 208 | 220 | 233 | 245 | 258 | 270 | |
| 349 | 283 | 295 | 307 | 320 | 332 | 345 | 357 | 370 | 382 | 394 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 350 | 54 407 | 419 | 432 | 444 | 456 | 469 | 481 | 494 | 506 | 518 | |
| 351 | 531 | 543 | 555 | 568 | 580 | 593 | 605 | 617 | 630 | 642 | |
| 352 | 654 | 667 | 679 | 691 | 704 | 716 | 728 | 741 | 753 | 765 | |
| 353 | 777 | 790 | 802 | 814 | 827 | 839 | 851 | 864 | 876 | 888 | |
| 354 | 900 | 913 | 925 | 937 | 949 | 962 | 974 | 986 | 998 | *011 | |
| 355 | 55 023 | 035 | 047 | 060 | 072 | 084 | 096 | 108 | 121 | 133 | 13 |
| 356 | 145 | 157 | 169 | 182 | 194 | 206 | 218 | 230 | 242 | 255 | 1 1.3 |
| 357 | 267 | 279 | 291 | 303 | 315 | 328 | 340 | 352 | 364 | 376 | 2 2.6 |
| 358 | 388 | 400 | 413 | 425 | 437 | 449 | 461 | 473 | 485 | 497 | 3 3.9 |
| 359 | 509 | 522 | 534 | 546 | 558 | 570 | 582 | 594 | 606 | 618 | 4 5.2 |
| 360 | 630 | 642 | 654 | 666 | 678 | 691 | 703 | 715 | 727 | 739 | 5 6.5 |
| 361 | 751 | 763 | 775 | 787 | 799 | 811 | 823 | 835 | 847 | 859 | 6 7.8 |
| 362 | 871 | 883 | 895 | 907 | 919 | 931 | 943 | 955 | 967 | 979 | 7 9.1 |
| 363 | 991 | *003 | *015 | *027 | *038 | *050 | *062 | *074 | *086 | *098 | 8 10.4 |
| 364 | 56 110 | 122 | 134 | 146 | 158 | 170 | 182 | 194 | 205 | 217 | 9 11.7 |
| 365 | 229 | 241 | 253 | 265 | 277 | 289 | 301 | 312 | 324 | 336 | |
| 366 | 348 | 360 | 372 | 384 | 396 | 407 | 419 | 431 | 443 | 455 | 12 |
| 367 | 467 | 478 | 490 | 502 | 514 | 526 | 538 | 549 | 561 | 573 | 1 1.2 |
| 368 | 585 | 597 | 608 | 620 | 632 | 644 | 656 | 667 | 679 | 691 | 2 2.4 |
| 369 | 703 | 714 | 726 | 738 | 750 | 761 | 773 | 785 | 797 | 808 | 3 3.6 |
| 370 | 820 | 832 | 844 | 855 | 867 | 879 | 891 | 902 | 914 | 926 | 4 4.8 |
| 371 | 937 | 949 | 961 | 972 | 984 | 996 | *008 | *019 | *031 | *043 | 5 6.0 |
| 372 | 57 054 | 066 | 078 | 089 | 101 | 113 | 124 | 136 | 148 | 159 | 6 7.2 |
| 373 | 171 | 183 | 194 | 206 | 217 | 229 | 241 | 252 | 264 | 276 | 7 8.4 |
| 374 | 287 | 299 | 310 | 322 | 334 | 345 | 357 | 368 | 380 | 392 | 8 9.6 |
| 375 | 403 | 415 | 426 | 438 | 449 | 461 | 473 | 484 | 496 | 507 | *9 10.8 |
| 376 | 519 | 530 | 542 | 553 | 565 | 576 | 588 | 600 | 611 | 623 | |
| 377 | 634 | 646 | 657 | 669 | 680 | 692 | 703 | 715 | 726 | 738 | 11 |
| 378 | 749 | 761 | 772 | 784 | 795 | 807 | 818 | 830 | 841 | 852 | 1 1.1 |
| 379 | 864 | 875 | 887 | 898 | 910 | 921 | 933 | 944 | 955 | 967 | 2 2.2 |
| 380 | 978 | 990 | *001 | *013 | *024 | *035 | *047 | *058 | *070 | *081 | 3 3.3 |
| 381 | 58 092 | 104 | 115 | 127 | 138 | 149 | 161 | 172 | 184 | 195 | 4 4.4 |
| 382 | 206 | 218 | 229 | 240 | 252 | 263 | 274 | 286 | 297 | 309 | 5 5.5 |
| 383 | 320 | 331 | 343 | 354 | 365 | 377 | 388 | 399 | 410 | 422 | 6 6.6 |
| 384 | 433 | 444 | 456 | 467 | 478 | 490 | 501 | 512 | 524 | 535 | 7 7.7 |
| 385 | 546 | 557 | 569 | 580 | 591 | 602 | 614 | 625 | 636 | 647 | 8 8.8 |
| 386 | 659 | 670 | 681 | 692 | 704 | 715 | 726 | 737 | 749 | 760 | 9 9.9 |
| 387 | 771 | 782 | 794 | 805 | 816 | 827 | 838 | 850 | 861 | 872 | |
| 388 | 883 | 894 | 906 | 917 | 928 | 939 | 950 | 961 | 973 | 984 | |
| 389 | 995 | *006 | *017 | *028 | *040 | *051 | *062 | *073 | *084 | *095 | 10 |
| 390 | 59 106 | 118 | 129 | 140 | 151 | 162 | 173 | 184 | 195 | 207 | 1 1.0 |
| 391 | 218 | 229 | 240 | 251 | 262 | 273 | 284 | 295 | 306 | 318 | 2 2.0 |
| 392 | 329 | 340 | 351 | 362 | 373 | 384 | 395 | 406 | 417 | 428 | 3 3.0 |
| 393 | 439 | 450 | 461 | 472 | 483 | 494 | 506 | 517 | 528 | 539 | 4 4.0 |
| 394 | 550 | 561 | 572 | 583 | 594 | 605 | 616 | 627 | 638 | 649 | 5 5.0 |
| 395 | 660 | 671 | 682 | 693 | 704 | 715 | 726 | 737 | 748 | 759 | 6 6.0 |
| 396 | 770 | 780 | 791 | 802 | 813 | 824 | 835 | 846 | 857 | 868 | 7 7.0 |
| 397 | 879 | 890 | 901 | 912 | 923 | 934 | 945 | 956 | 966 | 977 | 8 8.0 |
| 398 | 988 | 999 | *010 | *021 | *032 | *043 | *054 | *065 | *076 | *086 | 9 9.0 |
| 399 | 60 097 | 108 | 119 | 130 | 141 | 152 | 163 | 173 | 184 | 195 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 400 | 60 206 | 217 | 228 | 239 | 249 | 260 | 271 | 282 | 293 | 304 |
| 401 | 314 | 325 | 336 | 347 | 358 | 369 | 379 | 390 | 401 | 412 |
| 402 | 423 | 433 | 444 | 455 | 466 | 477 | 487 | 498 | 509 | 520 |
| 403 | 531 | 541 | 552 | 563 | 574 | 584 | 595 | 606 | 617 | 627 |
| 404 | 638 | 649 | 660 | 670 | 681 | 692 | 703 | 713 | 724 | 735 |
| 405 | 746 | 756 | 767 | 778 | 788 | 799 | 810 | 821 | 831 | 842 |
| 406 | 853 | 863 | 874 | 885 | 895 | 906 | 917 | 927 | 938 | 949 |
| 407 | 959 | 970 | 981 | 991 | *002 | *013 | *023 | *034 | *045 | *055 |
| 408 | 61 066 | 077 | 087 | 098 | 109 | 119 | 130 | 140 | 151 | 162 |
| 409 | 172 | 183 | 194 | 204 | 215 | 225 | 236 | 247 | 257 | 268 |
| 410 | 278 | 289 | 300 | 310 | 321 | 331 | 342 | 352 | 363 | 374 |
| 411 | 384 | 395 | 405 | 416 | 426 | 437 | 448 | 458 | 469 | 479 |
| 412 | 490 | 500 | 511 | 521 | 532 | 542 | 553 | 563 | 574 | 584 |
| 413 | 595 | 606 | 616 | 627 | 637 | 648 | 658 | 669 | 679 | 690 |
| 414 | 700 | 711 | 721 | 731 | 742 | 752 | 763 | 773 | 784 | 794 |
| 415 | 805 | 815 | 826 | 836 | 847 | 857 | 868 | 878 | 888 | 899 |
| 416 | 909 | 920 | 930 | 941 | 951 | 962 | 972 | 982 | 993 | *003 |
| 417 | 62 014 | 024 | 034 | 045 | 055 | 066 | 076 | 086 | 097 | 107 |
| 418 | 118 | 128 | 138 | 149 | 159 | 170 | 180 | 190 | 201 | 211 |
| 419 | 221 | 232 | 242 | 252 | 263 | 273 | 284 | 294 | 304 | 315 |
| 420 | 325 | 335 | 346 | 356 | 366 | 377 | 387 | 397 | 408 | 418 |
| 421 | 428 | 439 | 449 | 459 | 469 | 480 | 490 | 500 | 511 | 521 |
| 422 | 531 | 542 | 552 | 562 | 572 | 583 | 593 | 603 | 613 | 624 |
| 423 | 634 | 644 | 655 | 665 | 675 | 685 | 696 | 706 | 716 | 726 |
| 424 | 737 | 747 | 757 | 767 | 778 | 788 | 798 | 808 | 818 | 829 |
| 425 | 839 | 849 | 859 | 870 | 880 | 890 | 900 | 910 | 921 | 931 |
| 426 | 941 | 951 | 961 | 972 | 982 | 992 | *002 | *012 | *022 | *033 |
| 427 | 63 043 | 053 | 063 | 073 | 083 | 094 | 104 | 114 | 124 | 134 |
| 428 | 144 | 155 | 165 | 175 | 185 | 195 | 205 | 215 | 225 | 236 |
| 429 | 246 | 256 | 266 | 276 | 286 | 296 | 306 | 317 | 327 | 337 |
| 430 | 347 | 357 | 367 | 377 | 387 | 397 | 407 | 417 | 428 | 438 |
| 431 | 448 | 458 | 468 | 478 | 488 | 498 | 508 | 518 | 528 | 538 |
| 432 | 548 | 558 | 568 | 579 | 589 | 599 | 609 | 619 | 629 | 639 |
| 433 | 649 | 659 | 669 | 679 | 689 | 699 | 709 | 719 | 729 | 739 |
| 434 | 749 | 759 | 769 | 779 | 789 | 799 | 809 | 819 | 829 | 839 |
| 435 | 849 | 859 | 869 | 879 | 889 | 899 | 909 | 919 | 929 | 939 |
| 436 | 949 | 959 | 969 | 979 | 988 | 998 | *008 | *018 | *028 | *038 |
| 437 | 64 048 | 058 | 068 | 078 | 088 | 098 | 108 | 118 | 128 | 137 |
| 438 | 147 | 157 | 167 | 177 | 187 | 197 | 207 | 217 | 227 | 237 |
| 439 | 246 | 256 | 266 | 276 | 286 | 296 | 306 | 316 | 326 | 335 |
| 440 | 345 | 355 | 365 | 375 | 385 | 395 | 404 | 414 | 424 | 434 |
| 441 | 444 | 454 | 464 | 473 | 483 | 493 | 503 | 513 | 523 | 532 |
| 442 | 542 | 552 | 562 | 572 | 582 | 591 | 601 | 611 | 621 | 631 |
| 443 | 640 | 650 | 660 | 670 | 680 | 689 | 699 | 709 | 719 | 729 |
| 444 | 738 | 748 | 758 | 768 | 777 | 787 | 797 | 807 | 816 | 826 |
| 445 | 836 | 846 | 856 | 865 | 875 | 885 | 895 | 904 | 914 | 924 |
| 446 | 933 | 943 | 953 | 963 | 972 | 982 | 992 | *002 | *011 | *021 |
| 447 | 65 031 | 040 | 050 | 060 | 070 | 079 | 089 | 099 | 108 | 118 |
| 448 | 128 | 137 | 147 | 157 | 167 | 176 | 186 | 196 | 205 | 215 |
| 449 | 225 | 234 | 244 | 254 | 263 | 273 | 283 | 292 | 302 | 312 |

| PP. |
|---|
| 11 |
| 1 1.1 |
| 2 2.2 |
| 3 3.3 |
| 4 4.4 |
| 5 5.5 |
| 6 6.6 |
| 7 7.7 |
| 8 8.8 |
| 9 9.9 |
| 10 |
| 1 1.0 |
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| 1 0.9 |
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| 3 2.7 |
| 4 3.6 |
| 5 4.5 |
| 6 5.4 |
| 7 6.3 |
| 8 7.2 |
| 9 8.1 |

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| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 450 | 65 321 | 331 | 341 | 350 | 360 | 369 | 379 | 389 | 398 | 408 | |
| 451 | 418 | 427 | 437 | 447 | 456 | 466 | 475 | 485 | 495 | 504 | |
| 452 | 514 | 523 | 533 | 543 | 552 | 562 | 571 | 581 | 591 | 600 | |
| 453 | 610 | 619 | 629 | 639 | 648 | 658 | 667 | 677 | 686 | 696 | |
| 454 | 706 | 715 | 725 | 734 | 744 | 753 | 763 | 772 | 782 | 792 | |
| 455 | 801 | 811 | 820 | 830 | 839 | 849 | 858 | 868 | 877 | 887 | |
| 456 | 896 | 906 | 916 | 925 | 935 | 944 | 954 | 963 | 973 | 982 | |
| 457 | 992 | *001 | *011 | *020 | *030 | *039 | *049 | *058 | *068 | *077 | |
| 458 | 66 087 | 096 | 106 | 115 | 124 | 134 | 143 | 153 | 162 | 172 | 10 |
| 459 | 181 | 191 | 200 | 210 | 219 | 229 | 238 | 247 | 257 | 266 | 1 1.0 |
| 460 | 276 | 285 | 295 | 304 | 314 | 323 | 332 | 342 | 351 | 361 | 2 2.0<br>3 3.0 |
| 461 | 370 | 380 | 389 | 398 | 408 | 417 | 427 | 436 | 445 | 455 | 4 4.0 |
| 462 | 464 | 474 | 483 | 492 | 502 | 511 | 521 | 530 | 539 | 549 | 5 5.0 |
| 463 | 558 | 567 | 577 | 586 | 596 | 605 | 614 | 624 | 633 | 642 | 6 6.0 |
| 464 | 652 | 661 | 671 | 680 | 689 | 699 | 708 | 717 | 727 | 736 | 7 7.0<br>8 8.0 |
| 465 | 745 | 755 | 764 | 773 | 783 | 792 | 801 | 811 | 820 | 829 | 9 9.0 |
| 466 | 839 | 848 | 857 | 867 | 876 | 885 | 894 | 904 | 913 | 922 | |
| 467 | 932 | 941 | 950 | 960 | 969 | 978 | 987 | 997 | *006 | *015 | |
| 468 | 67 025 | 034 | 043 | 052 | 062 | 071 | 080 | 089 | 099 | 108 | |
| 469 | 117 | 127 | 136 | 145 | 154 | 164 | 173 | 182 | 191 | 201 | |
| 470 | 210 | 219 | 228 | 237 | 247 | 256 | 265 | 274 | 284 | 293 | |
| 471 | 302 | 311 | 321 | 330 | 339 | 348 | 357 | 367 | 376 | 385 | |
| 472 | 394 | 403 | 413 | 422 | 431 | 440 | 449 | 459 | 468 | 477 | . 9 |
| 473 | 486 | 495 | 504 | 514 | 523 | 532 | 541 | 550 | 560 | 569 | 1 0.9 |
| 474 | 578 | 587 | 596 | 605 | 614 | 624 | 633 | 642 | 651 | 660 | 2 1.8<br>3 2.7 |
| 475 | 669 | 679 | 688 | 697 | 706 | 715 | 724 | 733 | 742 | 752 | 4 3.6 |
| 476 | 761 | 770 | 779 | 788 | 797 | 806 | 815 | 825 | 834 | 843 | 5 4.5 |
| 477 | 852 | 861 | 870 | 879 | 888 | 897 | 906 | 916 | 925 | 934 | 6 5.4<br>7 6.3 |
| 478 | 943 | 952 | 961 | 970 | 979 | 988 | 997 | *006 | *015 | *024 | 8 7.2 |
| 479 | 68 034 | 043 | 052 | 061 | 070 | 079 | 088 | 097 | 106 | 115 | 9 8.1 |
| 480 | 124 | 133 | 142 | 151 | 160 | 169 | 178 | 187 | 196 | 205 | |
| 481 | 215 | 224 | 233 | 242 | 251 | 260 | 269 | 278 | 287 | 296 | |
| 482 | 305 | 314 | 323 | 332 | 341 | 350 | 359 | 368 | 377 | 386 | |
| 483 | 395 | 404 | 413 | 422 | 431 | 440 | 449 | 458 | 467 | 476 | |
| 484 | 485 | 494 | 502 | 511 | 520 | 529 | 538 | 547 | 556 | 565 | |
| 485 | 574 | 583 | 592 | 601 | 610 | 619 | 628 | 637 | 646 | 655 | 8 |
| 486 | 664 | 673 | 681 | 690 | 699 | 708 | 717 | 726 | 735 | 744 | 1 0.8 |
| 487 | 753 | 762 | 771 | 780 | 789 | 797 | 806 | 815 | 824 | 833 | 2 1.6<br>3 2.4 |
| 488 | 842 | 851 | 860 | 869 | 878 | 886 | 895 | 904 | 913 | 922 | 4 3.2 |
| 489 | 931 | 940 | 949 | 958 | 966 | 975 | 984 | 993 | *002 | *011 | 5 4.0 |
| 490 | 69 020 | 028 | 037 | 046 | 055 | 064 | 073 | 082 | 090 | 099 | 6 4.8<br>7 5.6 |
| 491 | 108 | 117 | 126 | 135 | 144 | 152 | 161 | 170 | 179 | 188 | 8 6.4 |
| 492 | 197 | 205 | 214 | 223 | 232 | 241 | 249 | 258 | 267 | 276 | 9 7.2 |
| 493 | 285 | 294 | 302 | 311 | 320 | 329 | 338 | 346 | 355 | 364 | |
| 494 | 373 | 381 | 390 | 399 | 408 | 417 | 425 | 434 | 443 | 452 | |
| 495 | 461 | 469 | 478 | 487 | 496 | 504 | 513 | 522 | 531 | 539 | |
| 496 | 548 | 557 | 566 | 574 | 583 | 592 | 601 | 609 | 618 | 627 | |
| 497 | 636 | 644 | 653 | 662 | 671 | 679 | 688 | 697 | 705 | 714 | |
| 498 | 723 | 732 | 740 | 749 | 758 | 767 | 775 | 784 | 793 | 801 | |
| 499 | 810 | 819 | 827 | 836 | 845 | 854 | 862 | 871 | 880 | 888 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **500** | **69 897** | **906** | **914** | **923** | **932** | **940** | **949** | **958** | **966** | **975** | |
| 501 | 984 | 992 | *001 | *010 | *018 | *027 | *036 | *044 | *053 | *062 | |
| 502 | 70 070 | 079 | 088 | 096 | 105 | 114 | 122 | 131 | 140 | 148 | |
| 503 | 157 | 165 | 174 | 183 | 191 | 200 | 209 | 217 | 226 | 234 | |
| 504 | 243 | 252 | 260 | 269 | 278 | 286 | 295 | 303 | 312 | 321 | |
| **505** | **329** | **338** | **346** | **355** | **364** | **372** | **381** | **389** | **398** | **406** | |
| 506 | 415 | 424 | 432 | 441 | 449 | 458 | 467 | 475 | 484 | 492 | |
| 507 | 501 | 509 | 518 | 526 | 535 | 544 | 552 | 561 | 569 | 578 | |
| 508 | 586 | 595 | 603 | 612 | 621 | 629 | 638 | 646 | 655 | 663 | **9** |
| 509 | 672 | 680 | 689 | 697 | 706 | 714 | 723 | 731 | 740 | 749 | 1 0.9<br>2 1.8<br>3 2.7<br>4 3.6<br>5 4.5<br>6 5.4<br>7 6.3<br>8 7.2<br>9 8.1 |
| **510** | **757** | **766** | **774** | **783** | **791** | **800** | **808** | **817** | **825** | **834** | |
| 511 | 842 | 851 | 859 | 868 | 876 | 885 | 893 | 902 | 910 | 919 | |
| 512 | 927 | 935 | 944 | 952 | 961 | 969 | 978 | 986 | 995 | *003 | |
| 513 | 71 012 | 020 | 029 | 037 | 046 | 054 | 063 | 071 | 079 | 088 | |
| 514 | 096 | 105 | 113 | 122 | 130 | 139 | 147 | 155 | 164 | 172 | |
| **515** | **181** | **189** | **198** | **206** | **214** | **223** | **231** | **240** | **248** | **257** | |
| 516 | 265 | 273 | 282 | 290 | 299 | 307 | 315 | 324 | 332 | 341 | |
| 517 | 349 | 357 | 366 | 374 | 383 | 391 | 399 | 408 | 416 | 425 | |
| 518 | 433 | 441 | 450 | 458 | 466 | 475 | 483 | 492 | 500 | 508 | |
| 519 | 517 | 525 | 533 | 542 | 550 | 559 | 567 | 575 | 584 | 592 | |
| **520** | **600** | **609** | **617** | **625** | **634** | **642** | **650** | **659** | **667** | **675** | |
| 521 | 684 | 692 | 700 | 709 | 717 | 725 | 734 | 742 | 750 | 759 | **8** |
| 522 | 767 | 775 | 784 | 792 | 800 | 809 | 817 | 825 | 834 | 842 | 1 0.8<br>2 1.6<br>3 2.4<br>4 3.2<br>5 4.0<br>6 4.8<br>7 5.6<br>8 6.4<br>9 7.2 |
| 523 | 850 | 858 | 867 | 875 | 883 | 892 | 900 | 908 | 917 | 925 | |
| 524 | 933 | 941 | 950 | 958 | 966 | 975 | 983 | 991 | 999 | *008 | |
| **525** | **72 016** | **024** | **032** | **041** | **049** | **057** | **066** | **074** | **082** | **090** | |
| 526 | 099 | 107 | 115 | 123 | 132 | 140 | 148 | 156 | 165 | 173 | |
| 527 | 181 | 189 | 198 | 206 | 214 | 222 | 230 | 239 | 247 | 255 | |
| 528 | 263 | 272 | 280 | 288 | 296 | 304 | 313 | 321 | 329 | 337 | |
| 529 | 346 | 354 | 362 | 370 | 378 | 387 | 395 | 403 | 411 | 419 | |
| **530** | **428** | **436** | **444** | **452** | **460** | **469** | **477** | **485** | **493** | **501** | |
| 531 | 509 | 518 | 526 | 534 | 542 | 550 | 558 | 567 | 575 | 583 | |
| 532 | 591 | 599 | 607 | 616 | 624 | 632 | 640 | 648 | 656 | 665 | |
| 533 | 673 | 681 | 689 | 697 | 705 | 713 | 722 | 730 | 738 | 746 | |
| 534 | 754 | 762 | 770 | 779 | 787 | 795 | 803 | 811 | 819 | 827 | |
| **535** | **835** | **843** | **852** | **860** | **868** | **876** | **884** | **892** | **900** | **908** | **7** |
| 536 | 916 | 925 | 933 | 941 | 949 | 957 | 965 | 973 | 981 | 989 | 1 0.7<br>2 1.4<br>3 2.1<br>4 2.8<br>5 3.5<br>6 4.2<br>7 4.9<br>8 5.6<br>9 6.3 |
| 537 | 997 | *006 | *014 | *022 | *030 | *038 | *046 | *054 | *062 | *070 | |
| 538 | 73 078 | 086 | 094 | 102 | 111 | 119 | 127 | 135 | 143 | 151 | |
| 539 | 159 | 167 | 175 | 183 | 191 | 199 | 207 | 215 | 223 | 231 | |
| **540** | **239** | **247** | **255** | **263** | **272** | **280** | **288** | **296** | **304** | **312** | |
| 541 | 320 | 328 | 336 | 344 | 352 | 360 | 368 | 376 | 384 | 392 | |
| 542 | 400 | 408 | 416 | 424 | 432 | 440 | 448 | 456 | 464 | 472 | |
| 543 | 480 | 488 | 496 | 504 | 512 | 520 | 528 | 536 | 544 | 552 | |
| 544 | 560 | 568 | 576 | 584 | 592 | 600 | 608 | 616 | 624 | 632 | |
| **545** | **640** | **648** | **656** | **664** | **672** | **679** | **687** | **695** | **703** | **711** | |
| 546 | 719 | 727 | 735 | 743 | 751 | 759 | 767 | 775 | 783 | 791 | |
| 547 | 799 | 807 | 815 | 823 | 830 | 838 | 846 | 854 | 862 | 870 | |
| 548 | 878 | 886 | 894 | 902 | 910 | 918 | 926 | 933 | 941 | 949 | |
| 549 | 957 | 965 | 973 | 981 | 989 | 997 | *005 | *013 | *020 | *028 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 550 | 74 036 | 044 | 052 | 060 | 068 | 076 | 084 | 092 | 099 | 107 | |
| 551 | 115 | 123 | 131 | 139 | 147 | 155 | 162 | 170 | 178 | 186 | |
| 552 | 194 | 202 | 210 | 218 | 225 | 233 | 241 | 249 | 257 | 265 | |
| 553 | 273 | 280 | 288 | 296 | 304 | 312 | 320 | 327 | 335 | 343 | |
| 554 | 351 | 359 | 367 | 374 | 382 | 390 | 398 | 406 | 414 | 421 | |
| 555 | 429 | 437 | 445 | 453 | 461 | 468 | 476 | 484 | 492 | 500 | |
| 556 | 507 | 515 | 523 | 531 | 539 | 547 | 554 | 562 | 570 | 578 | |
| 557 | 586 | 593 | 601 | 609 | 617 | 624 | 632 | 640 | 648 | 656 | |
| 558 | 663 | 671 | 679 | 687 | 695 | 702 | 710 | 718 | 726 | 733 | |
| 559 | 741 | 749 | 757 | 764 | 772 | 780 | 788 | 796 | 803 | 811 | |
| 560 | 819 | 827 | 834 | 842 | 850 | 858 | 865 | 873 | 881 | 889 | |
| 561 | 896 | 904 | 912 | 920 | 927 | 935 | 943 | 950 | 958 | 966 | |
| 562 | 974 | 981 | 989 | 997 | *005 | *012 | *020 | *028 | *035 | *043 | 8 |
| 563 | 75 051 | 059 | 066 | 074 | 082 | 089 | 097 | 105 | 113 | 120 | 1 0.8 |
| 564 | 128 | 136 | 143 | 151 | 159 | 166 | 174 | 182 | 189 | 197 | 2 1.6 |
| 565 | 205 | 213 | 220 | 228 | 236 | 243 | 251 | 259 | 266 | 274 | 3 2.4 |
| 566 | 282 | 289 | 297 | 305 | 312 | 320 | 328 | 335 | 343 | 351 | 4 3.2 |
| 567 | 358 | 366 | 374 | 381 | 389 | 397 | 404 | 412 | 420 | 427 | 5 4.0 |
| 568 | 435 | 442 | 450 | 458 | 465 | 473 | 481 | 488 | 496 | 504 | 6 4.8 |
| 569 | 511 | 519 | 526 | 534 | 542 | 549 | 557 | 565 | 572 | 580 | 7 5.6 |
| 570 | 587 | 595 | 603 | 610 | 618 | 626 | 633 | 641 | 648 | 656 | 8 6.4 |
| 571 | 664 | 671 | 679 | 686 | 694 | 702 | 709 | 717 | 724 | 732 | 9 7.2 |
| 572 | 740 | 747 | 755 | 762 | 770 | 778 | 785 | 793 | 800 | 808 | |
| 573 | 815 | 823 | 831 | 838 | 846 | 853 | 861 | 868 | 876 | 884 | |
| 574 | 891 | 899 | 906 | 914 | 921 | 929 | 937 | 944 | 952 | 959 | |
| 575 | 967 | 974 | 982 | 989 | 997 | *005 | *012 | *020 | *027 | *035 | |
| 576 | 76 042 | 050 | 057 | 065 | 072 | 080 | 087 | 095 | 103 | 110 | |
| 577 | 118 | 125 | 133 | 140 | 148 | 155 | 163 | 170 | 178 | 185 | |
| 578 | 193 | 200 | 208 | 215 | 223 | 230 | 238 | 245 | 253 | 260 | |
| 579 | 268 | 275 | 283 | 290 | 298 | 305 | 313 | 320 | 328 | 335 | |
| 580 | 343 | 350 | 358 | 365 | 373 | 380 | 388 | 395 | 403 | 410 | |
| 581 | 418 | 425 | 433 | 440 | 448 | 455 | 462 | 470 | 477 | 485 | 7 |
| 582 | 492 | 500 | 507 | 515 | 522 | 530 | 537 | 545 | 552 | 559 | 1 0.7 |
| 583 | 567 | 574 | 582 | 589 | 597 | 604 | 612 | 619 | 626 | 634 | 2 1.4 |
| 584 | 641 | 649 | 656 | 664 | 671 | 678 | 686 | 693 | 701 | 708 | 3 2.1 |
| 585 | 716 | 723 | 730 | 738 | 745 | 753 | 760 | 768 | 775 | 782 | 4 2.8 |
| 586 | 790 | 797 | 805 | 812 | 819 | 827 | 834 | 842 | 849 | 856 | 5 3.5 |
| 587 | 864 | 871 | 879 | 886 | 893 | 901 | 908 | 916 | 923 | 930 | 6 4.2 |
| 588 | 938 | 945 | 953 | 960 | 967 | 975 | 982 | 989 | 997 | *004 | 7 4.9 |
| 589 | 77 012 | 019 | 026 | 034 | 041 | 048 | 056 | 063 | 070 | 078 | 8 5.6 |
| 590 | 085 | 093 | 100 | 107 | 115 | 122 | 129 | 137 | 144 | 151 | 9 6.8 |
| 591 | 159 | 166 | 173 | 181 | 188 | 195 | 203 | 210 | 217 | 225 | |
| 592 | 232 | 240 | 247 | 254 | 262 | 269 | 276 | 283 | 291 | 298 | |
| 593 | 305 | 313 | 320 | 327 | 335 | 342 | 349 | 357 | 364 | 371 | |
| 594 | 379 | 386 | 393 | 401 | 408 | 415 | 422 | 430 | 437 | 444 | |
| 595 | 452 | 459 | 466 | 474 | 481 | 488 | 495 | 503 | 510 | 517 | |
| 596 | 525 | 532 | 539 | 546 | 554 | 561 | 568 | 576 | 583 | 590 | |
| 597 | 597 | 605 | 612 | 619 | 627 | 634 | 641 | 648 | 656 | 663 | |
| 598 | 670 | 677 | 685 | 692 | 699 | 706 | 714 | 721 | 728 | 735 | |
| 599 | 743 | 750 | 757 | 764 | 772 | 779 | 786 | 793 | 801 | 808 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 600 | 77 815 | 822 | 830 | 837 | 844 | 851 | 859 | 866 | 873 | 880 | |
| 601 | 887 | 895 | 902 | 909 | 916 | 924 | 931 | 938 | 945 | 952 | |
| 602 | 960 | 967 | 974 | 981 | 988 | 996 | *003 | *010 | *017 | *025 | |
| 603 | 78 032 | 039 | 046 | 053 | 061 | 068 | 075 | 082 | 089 | 097 | |
| 604 | 104 | 111 | 118 | 125 | 132 | 140 | 147 | 154 | 161 | 168 | |
| 605 | 176 | 183 | 190 | 197 | 204 | 211 | 219 | 226 | 233 | 240 | |
| 606 | 247 | 254 | 262 | 269 | 276 | 283 | 290 | 297 | 305 | 312 | |
| 607 | 319 | 326 | 333 | 340 | 347 | 355 | 362 | 369 | 376 | 383 | |
| 608 | 390 | 398 | 405 | 412 | 419 | 426 | 433 | 440 | 447 | 455 | 8 |
| 609 | 462 | 469 | 476 | 483 | 490 | 497 | 504 | 512 | 519 | 526 | 1 0.8 |
| 610 | 533 | 540 | 547 | 554 | 561 | 569 | 576 | 583 | 590 | 597 | 2 1.6 |
| 611 | 604 | 611 | 618 | 625 | 633 | 640 | 647 | 654 | 661 | 668 | 3 2.4 |
| 612 | 675 | 682 | 689 | 696 | 704 | 711 | 718 | 725 | 732 | 739 | 4 3.2 |
| 613 | 746 | 753 | 760 | 767 | 774 | 781 | 789 | 796 | 803 | 810 | 5 4.0 |
| 614 | 817 | 824 | 831 | 838 | 845 | 852 | 859 | 866 | 873 | 880 | 6 4.8 |
| 615 | 888 | 895 | 902 | 909 | 916 | 923 | 930 | 937 | 944 | 951 | 7 5.6 |
| 616 | 958 | 965 | 972 | 979 | 986 | 993 | *000 | *007 | *014 | *021 | 8 6.4 |
| 617 | 79 029 | 036 | 043 | 050 | 057 | 064 | 071 | 078 | 085 | 092 | 9 7.2 |
| 618 | 099 | 106 | 113 | 120 | 127 | 134 | 141 | 148 | 155 | 162 | |
| 619 | 169 | 176 | 183 | 190 | 197 | 204 | 211 | 218 | 225 | 232 | |
| 620 | 239 | 246 | 253 | 260 | 267 | 274 | 281 | 288 | 295 | 302 | |
| 621 | 309 | 316 | 323 | 330 | 337 | 344 | 351 | 358 | 365 | 372 | |
| 622 | 379 | 386 | 393 | 400 | 407 | 414 | 421 | 428 | 435 | 442 | 7 |
| 623 | 449 | 456 | 463 | 470 | 477 | 484 | 491 | 498 | 505 | 511 | 1 0.7 |
| 624 | 518 | 525 | 532 | 539 | 546 | 553 | 560 | 567 | 574 | 581 | 2 1.4 |
| 625 | 588 | 595 | 602 | 609 | 616 | 623 | 630 | 637 | 644 | 650 | 3 2.1 |
| 626 | 657 | 664 | 671 | 678 | 685 | 692 | 699 | 706 | 713 | 720 | 4 2.8 |
| 627 | 727 | 734 | 741 | 748 | 754 | 761 | 768 | 775 | 782 | 789 | 5 3.5 |
| 628 | 796 | 803 | 810 | 817 | 824 | 831 | 837 | 844 | 851 | 858 | 6 4.2 |
| 629 | 865 | 872 | 879 | 886 | 893 | 900 | 906 | 913 | 920 | 927 | 7 4.9 |
| 630 | 934 | 941 | 948 | 955 | 962 | 969 | 975 | 982 | 989 | 996 | 8 5.6 |
| 631 | 80 003 | 010 | 017 | 024 | 030 | 037 | 044 | 051 | 058 | 065 | 9 6.3 |
| 632 | 072 | 079 | 085 | 092 | 099 | 106 | 113 | 120 | 127 | 134 | |
| 633 | 140 | 147 | 154 | 161 | 168 | 175 | 182 | 188 | 195 | 202 | |
| 634 | 209 | 216 | 223 | 229 | 236 | 243 | 250 | 257 | 264 | 271 | |
| 635 | 277 | 284 | 291 | 298 | 305 | 312 | 318 | 325 | 332 | 339 | |
| 636 | 346 | 353 | 359 | 366 | 373 | 380 | 387 | 393 | 400 | 407 | 6 |
| 637 | 414 | 421 | 428 | 434 | 441 | 448 | 455 | 462 | 468 | 475 | 1 0.6 |
| 638 | 482 | 489 | 496 | 502 | 509 | 516 | 523 | 530 | 536 | 543 | 2 1.2 |
| 639 | 550 | 557 | 564 | 570 | 577 | 584 | 591 | 598 | 604 | 611 | 3 1.8 |
| 640 | 618 | 625 | 632 | 638 | 645 | 652 | 659 | 665 | 672 | 679 | 4 2.4 |
| 641 | 686 | 693 | 699 | 706 | 713 | 720 | 726 | 733 | 740 | 747 | 5 3.0 |
| 642 | 754 | 760 | 767 | 774 | 781 | 787 | 794 | 801 | 808 | 814 | 6 3.6 |
| 643 | 821 | 828 | 835 | 841 | 848 | 855 | 862 | 868 | 875 | 882 | 7 4.2 |
| 644 | 889 | 895 | 902 | 909 | 916 | 922 | 929 | 936 | 943 | 949 | 8 4.8 |
| 645 | 956 | 963 | 969 | 976 | 983 | 990 | 996 | *003 | *010 | *017 | 9 5.4 |
| 646 | 81 023 | 030 | 037 | 043 | 050 | 057 | 064 | 070 | 077 | 084 | |
| 647 | 090 | 097 | 104 | 111 | 117 | 124 | 131 | 137 | 144 | 151 | |
| 648 | 158 | 164 | 171 | 178 | 184 | 191 | 198 | 204 | 211 | 218 | |
| 649 | 224 | 231 | 238 | 245 | 251 | 258 | 265 | 271 | 278 | 285 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **650** | 81 291 | 298 | 305 | 311 | 318 | 325 | 331 | 338 | 345 | 351 | |
| 651 | 358 | 365 | 371 | 378 | 385 | 391 | 398 | 405 | 411 | 418 | |
| 652 | 425 | 431 | 438 | 445 | 451 | 458 | 465 | 471 | 478 | 485 | |
| 653 | 491 | 498 | 505 | 511 | 518 | 525 | 531 | 538 | 544 | 551 | |
| 654 | 558 | 564 | 571 | 578 | 584 | 591 | 598 | 604 | 611 | 617 | |
| **655** | **624** | **631** | **637** | **644** | **651** | **657** | **664** | **671** | **677** | **684** | |
| 656 | 690 | 697 | 704 | 710 | 717 | 723 | 730 | 737 | 743 | 750 | |
| 657 | 757 | 763 | 770 | 776 | 783 | 790 | 796 | 803 | 809 | 816 | |
| 658 | 823 | 829 | 836 | 842 | 849 | 856 | 862 | 869 | 875 | 882 | |
| 659 | 889 | 895 | 902 | 908 | 915 | 921 | 928 | 935 | 941 | 948 | |
| **660** | **954** | **961** | **968** | **974** | **981** | **987** | **994** | ***000** | ***007** | ***014** | |
| 661 | 82 020 | 027 | 033 | 040 | 046 | 053 | 060 | 066 | 073 | 079 | |
| 662 | 086 | 092 | 099 | 105 | 112 | 119 | 125 | 132 | 138 | 145 | 7 |
| 663 | 151 | 158 | 164 | 171 | 178 | 184 | 191 | 197 | 204 | 210 | 1 0.7 |
| 664 | 217 | 223 | 230 | 236 | 243 | 249 | 256 | 263 | 269 | 276 | 2 1.4 |
| **665** | **282** | **289** | **295** | **302** | **308** | **315** | **321** | **328** | **334** | **341** | 3 2.1 |
| 666 | 347 | 354 | 360 | 367 | 373 | 380 | 387 | 393 | 400 | 406 | 4 2.8 |
| 667 | 413 | 419 | 426 | 432 | 439 | 445 | 452 | 458 | 465 | 471 | 5 3.5 |
| 668 | 478 | 484 | 491 | 497 | 504 | 510 | 517 | 523 | 530 | 536 | 6 4.2 |
| 669 | 543 | 549 | 556 | 562 | 569 | 575 | 582 | 588 | 595 | 601 | 7 4.9 |
| **670** | **607** | **614** | **620** | **627** | **633** | **640** | **646** | **653** | **659** | **666** | 8 5.6 |
| 671 | 672 | 679 | 685 | 692 | 698 | 705 | 711 | 718 | 724 | 730 | 9 6.3 |
| 672 | 737 | 743 | 750 | 756 | 763 | 769 | 776 | 782 | 789 | 795 | |
| 673 | 802 | 808 | 814 | 821 | 827 | 834 | 840 | 847 | 853 | 860 | |
| 674 | 866 | 872 | 879 | 885 | 892 | 898 | 905 | 911 | 918 | 924 | |
| **675** | **930** | **937** | **943** | **950** | **956** | **963** | **969** | **975** | **982** | **988** | |
| 676 | 995 | *001 | *008 | *014 | *020 | *027 | *033 | *040 | *046 | *052 | |
| 677 | 83 059 | 065 | 072 | 078 | 085 | 091 | 097 | 104 | 110 | 117 | |
| 678 | 123 | 129 | 136 | 142 | 149 | 155 | 161 | 168 | 174 | 181 | |
| 679 | 187 | 193 | 200 | 206 | 213 | 219 | 225 | 232 | 238 | 245 | |
| **680** | **251** | **257** | **264** | **270** | **276** | **283** | **289** | **296** | **302** | **308** | |
| 681 | 315 | 321 | 327 | 334 | 340 | 347 | 353 | 359 | 366 | 372 | 6 |
| 682 | 378 | 385 | 391 | 398 | 404 | 410 | 417 | 423 | 429 | 436 | 1 0.6 |
| 683 | 442 | 448 | 455 | 461 | 467 | 474 | 480 | 487 | 493 | 499 | 2 1.2 |
| 684 | 506 | 512 | 518 | 525 | 531 | 537 | 544 | 550 | 556 | 563 | 3 1.8 |
| **685** | **569** | **575** | **582** | **588** | **594** | **601** | **607** | **613** | **620** | **626** | 4 2.4 |
| 686 | 632 | 639 | 645 | 651 | 658 | 664 | 670 | 677 | 683 | 689 | 5 3.0 |
| 687 | 696 | 702 | 708 | 715 | 721 | 727 | 734 | 740 | 746 | 753 | 6 3.6 |
| 688 | 759 | 765 | 771 | 778 | 784 | 790 | 797 | 803 | 809 | 816 | 7 4.2 |
| 689 | 822 | 828 | 835 | 841 | 847 | 853 | 860 | 866 | 872 | 879 | 8 4.8 |
| **690** | **885** | **891** | **897** | **904** | **910** | **916** | **923** | **929** | **935** | **942** | 9 5.4 |
| 691 | 948 | 954 | 960 | 967 | 973 | 979 | 985 | 992 | 998 | *004 | |
| 692 | 84 011 | 017 | 023 | 029 | 036 | 042 | 048 | 055 | 061 | 067 | |
| 693 | 073 | 080 | 086 | 092 | 098 | 105 | 111 | 117 | 123 | 130 | |
| 694 | 136 | 142 | 148 | 155 | 161 | 167 | 173 | 180 | 186 | 192 | |
| **695** | **198** | **205** | **211** | **217** | **223** | **230** | **236** | **242** | **248** | **255** | |
| 696 | 261 | 267 | 273 | 280 | 286 | 292 | 298 | 305 | 311 | 317 | |
| 697 | 323 | 330 | 336 | 342 | 348 | 354 | 361 | 367 | 373 | 379 | |
| 698 | 386 | 392 | 398 | 404 | 410 | 417 | 423 | 429 | 435 | 442 | |
| 699 | 448 | 454 | 460 | 466 | 473 | 479 | 485 | 491 | 497 | 504 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **700** | **84 510** | **516** | **522** | **528** | **535** | **541** | **547** | **553** | **559** | **566** | |
| 701 | 572 | 578 | 584 | 590 | 597 | 603 | 609 | 615 | 621 | 628 | |
| 702 | 634 | 640 | 646 | 652 | 658 | 665 | 671 | 677 | 683 | 689 | |
| 703 | 696 | 702 | 708 | 714 | 720 | 726 | 733 | 739 | 745 | 751 | |
| 704 | 757 | 763 | 770 | 776 | 782 | 788 | 794 | 800 | 807 | 813 | |
| **705** | **819** | **825** | **831** | **837** | **844** | **850** | **856** | **862** | **868** | **874** | |
| 706 | 880 | 887 | 893 | 899 | 905 | 911 | 917 | 924 | 930 | 936 | |
| 707 | 942 | 948 | 954 | 960 | 967 | 973 | 979 | 985 | 991 | 997 | **7** |
| 708 | 85 003 | 009 | 016 | 022 | 028 | 034 | 040 | 046 | 052 | 058 | 1 0.7 |
| 709 | 065 | 071 | 077 | 083 | 089 | 095 | 101 | 107 | 114 | 120 | 2 1.4 |
| **710** | **126** | **132** | **138** | **144** | **150** | **156** | **163** | **169** | **175** | **181** | 3 2.1 |
| 711 | 187 | 193 | 199 | 205 | 211 | 217 | 224 | 230 | 236 | 242 | 4 2.8 |
| 712 | 248 | 254 | 260 | 266 | 272 | 278 | 285 | 291 | 297 | 303 | 5 3.5 |
| 713 | 309 | 315 | 321 | 327 | 333 | 339 | 345 | 352 | 358 | 364 | 6 4.2 |
| 714 | 370 | 376 | 382 | 388 | 394 | 400 | 406 | 412 | 418 | 425 | 7 4.9 |
| **715** | **431** | **437** | **443** | **449** | **455** | **461** | **467** | **473** | **479** | **485** | 8 5.6 |
| 716 | 491 | 497 | 503 | 509 | 516 | 522 | 528 | 534 | 540 | 546 | 9 6.3 |
| 717 | 552 | 558 | 564 | 570 | 576 | 582 | 588 | 594 | 600 | 606 | |
| 718 | 612 | 618 | 625 | 631 | 637 | 643 | 649 | 655 | 661 | 667 | |
| 719 | 673 | 679 | 685 | 691 | 697 | 703 | 709 | 715 | 721 | 727 | |
| **720** | **733** | **739** | **745** | **751** | **757** | **763** | **769** | **775** | **781** | **788** | |
| 721 | 794 | 800 | 806 | 812 | 818 | 824 | 830 | 836 | 842 | 848 | **6** |
| 722 | 854 | 860 | 866 | 872 | 878 | 884 | 890 | 896 | 902 | 908 | 1 0.6 |
| 723 | 914 | 920 | 926 | 932 | 938 | 944 | 950 | 956 | 962 | 968 | 2 1.2 |
| 724 | 974 | 980 | 986 | 992 | 998 | *004 | *010 | *016 | *022 | *028 | 3 1.8 |
| **725** | **86 034** | **040** | **046** | **052** | **058** | **064** | **070** | **076** | **082** | **088** | 4 2.4 |
| 726 | 094 | 100 | 106 | 112 | 118 | 124 | 130 | 136 | 141 | 147 | 5 3.0 |
| 727 | 153 | 159 | 165 | 171 | 177 | 183 | 189 | 195 | 201 | 207 | 6 3.6 |
| 728 | 213 | 219 | 225 | 231 | 237 | 243 | 249 | 255 | 261 | 267 | 7 4.2 |
| 729 | 273 | 279 | 285 | 291 | 297 | 303 | 308 | 314 | 320 | 326 | 8 4.8 |
| **730** | **332** | **338** | **344** | **350** | **356** | **362** | **368** | **374** | **380** | **386** | 9 5.4 |
| 731 | 392 | 398 | 404 | 410 | 415 | 421 | 427 | 433 | 439 | 445 | |
| 732 | 451 | 457 | 463 | 469 | 475 | 481 | 487 | 493 | 499 | 504 | |
| 733 | 510 | 516 | 522 | 528 | 534 | 540 | 546 | 552 | 558 | 564 | |
| 734 | 570 | 576 | 581 | 587 | 593 | 599 | 605 | 611 | 617 | 623 | |
| **735** | **629** | **635** | **641** | **646** | **652** | **658** | **664** | **670** | **676** | **682** | **5** |
| 736 | 688 | 694 | 700 | 705 | 711 | 717 | 723 | 729 | 735 | 741 | 1 0.5 |
| 737 | 747 | 753 | 759 | 764 | 770 | 776 | 782 | 788 | 794 | 800 | 2 1.0 |
| 738 | 806 | 812 | 817 | 823 | 829 | 835 | 841 | 847 | 853 | 859 | 3 1.5 |
| 739 | 864 | 870 | 876 | 882 | 888 | 894 | 900 | 906 | 911 | 917 | 4 2.0 |
| **740** | **923** | **929** | **935** | **941** | **947** | **953** | **958** | **964** | **970** | **976** | 5 2.5 |
| 741 | 982 | 988 | 994 | 999 | *005 | *011 | *017 | *023 | *029 | *035 | 6 3.0 |
| 742 | 87 040 | 046 | 052 | 058 | 064 | 070 | 075 | 081 | 087 | 093 | 7 3.5 |
| 743 | 099 | 105 | 111 | 116 | 122 | 128 | 134 | 140 | 146 | 151 | 8 4.0 |
| 744 | 157 | 163 | 169 | 175 | 181 | 186 | 192 | 198 | 204 | 210 | 9 4.5 |
| **745** | **216** | **221** | **227** | **233** | **239** | **245** | **251** | **256** | **262** | **268** | |
| 746 | 274 | 280 | 286 | 291 | 297 | 303 | 309 | 315 | 320 | 326 | |
| 747 | 332 | 338 | 344 | 349 | 355 | 361 | 367 | 373 | 379 | 384 | |
| 748 | 390 | 396 | 402 | 408 | 413 | 419 | 425 | 431 | 437 | 442 | |
| 749 | 448 | 454 | 460 | 466 | 471 | 477 | 483 | 489 | 495 | 500 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **750** | **87 506** | **512** | **518** | **523** | **529** | **535** | **541** | **547** | **552** | **558** | |
| 751 | 564 | 570 | 576 | 581 | 587 | 593 | 599 | 604 | 610 | 616 | |
| 752 | 622 | 628 | 633 | 639 | 645 | 651 | 656 | 662 | 668 | 674 | |
| 753 | 679 | 685 | 691 | 697 | 703 | 708 | 714 | 720 | 726 | 731 | |
| 754 | 737 | 743 | 749 | 754 | 760 | 766 | 772 | 777 | 783 | 789 | |
| **755** | **795** | **800** | **806** | **812** | **818** | **823** | **829** | **835** | **841** | **846** | |
| 756 | 852 | 858 | 864 | 869 | 875 | 881 | 887 | 892 | 898 | 904 | |
| 757 | 910 | 915 | 921 | 927 | 933 | 938 | 944 | 950 | 955 | 961 | |
| 758 | 967 | 973 | 978 | 984 | 990 | 996 | *001 | *007 | *013 | *018 | |
| 759 | 88 024 | 030 | 036 | 041 | 047 | 053 | 058 | 064 | 070 | 076 | |
| **760** | **081** | **087** | **093** | **098** | **104** | **110** | **116** | **121** | **127** | **133** | |
| 761 | 138 | 144 | 150 | 156 | 161 | 167 | 173 | 178 | 184 | 190 | |
| 762 | 195 | 201 | 207 | 213 | 218 | 224 | 230 | 235 | 241 | 247 | 6 |
| 763 | 252 | 258 | 264 | 270 | 275 | 281 | 287 | 292 | 298 | 304 | 1 0.6 |
| 764 | 309 | 315 | 321 | 326 | 332 | 338 | 343 | 349 | 355 | 360 | 2 1.2 |
| **765** | **366** | **372** | **377** | **383** | **389** | **395** | **400** | **406** | **412** | **417** | 3 1.8 |
| 766 | 423 | 429 | 434 | 440 | 446 | 451 | 457 | 463 | 468 | 474 | 4 2.4 |
| 767 | 480 | 485 | 491 | 497 | 502 | 508 | 513 | 519 | 525 | 530 | 5 3.0 |
| 768 | 536 | 542 | 547 | 553 | 559 | 564 | 570 | 576 | 581 | 587 | 6 3.6 |
| 769 | 593 | 598 | 604 | 610 | 615 | 621 | 627 | 632 | 638 | 643 | 7 4.2 |
| **770** | **649** | **655** | **660** | **666** | **672** | **677** | **683** | **689** | **694** | **700** | 8 4.8 |
| 771 | 705 | 711 | 717 | 722 | 728 | 734 | 739 | 745 | 750 | 756 | 9 5.4 |
| 772 | 762 | 767 | 773 | 779 | 784 | 790 | 795 | 801 | 807 | 812 | |
| 773 | 818 | 824 | 829 | 835 | 840 | 846 | 852 | 857 | 863 | 868 | |
| 774 | 874 | 880 | 885 | 891 | 897 | 902 | 908 | 913 | 919 | 925 | |
| **775** | **930** | **936** | **941** | **947** | **953** | **958** | **964** | **969** | **975** | **981** | |
| 776 | 986 | 992 | 997 | *003 | *009 | *014 | *020 | *025 | *031 | *037 | |
| 777 | 89 042 | 048 | 053 | 059 | 064 | 070 | 076 | 081 | 087 | 092 | |
| 778 | 098 | 104 | 109 | 115 | 120 | 126 | 131 | 137 | 143 | 148 | |
| 779 | 154 | 159 | 165 | 170 | 176 | 182 | 187 | 193 | 198 | 204 | |
| **780** | **209** | **215** | **221** | **226** | **232** | **237** | **243** | **248** | **254** | **260** | |
| 781 | 265 | 271 | 276 | 282 | 287 | 293 | 298 | 304 | 310 | 315 | 5 |
| 782 | 321 | 326 | 332 | 337 | 343 | 348 | 354 | 360 | 365 | 371 | 1 0.5 |
| 783 | 376 | 382 | 387 | 393 | 398 | 404 | 409 | 415 | 421 | 426 | 2 1.0 |
| 784 | 432 | 437 | 443 | 448 | 454 | 459 | 465 | 470 | 476 | 481 | 3 1.5 |
| **785** | **487** | **492** | **498** | **504** | **509** | **515** | **520** | **526** | **531** | **537** | 4 2.0 |
| 786 | 542 | 548 | 553 | 559 | 564 | 570 | 575 | 581 | 586 | 592 | 5 2.5 |
| 787 | 597 | 603 | 609 | 614 | 620 | 625 | 631 | 636 | 642 | 647 | 6 3.0 |
| 788 | 653 | 658 | 664 | 669 | 675 | 680 | 686 | 691 | 697 | 702 | 7 3.5 |
| 789 | 708 | 713 | 719 | 724 | 730 | 735 | 741 | 746 | 752 | 757 | 8 4.0 |
| **790** | **763** | **768** | **774** | **779** | **785** | **790** | **796** | **801** | **807** | **812** | 9 4.5 |
| 791 | 818 | 823 | 829 | 834 | 840 | 845 | 851 | 856 | 862 | 867 | |
| 792 | 873 | 878 | 883 | 889 | 894 | 900 | 905 | 911 | 916 | 922 | |
| 793 | 927 | 933 | 938 | 944 | 949 | 955 | 960 | 966 | 971 | 977 | |
| 794 | 982 | 988 | 993 | 998 | *004 | *009 | *015 | *020 | *026 | *031 | |
| **795** | **90 037** | **042** | **048** | **053** | **059** | **064** | **069** | **075** | **080** | **086** | |
| 796 | 091 | 097 | 102 | 108 | 113 | 119 | 124 | 129 | 135 | 140 | |
| 797 | 146 | 151 | 157 | 162 | 168 | 173 | 179 | 184 | 189 | 195 | |
| 798 | 200 | 206 | 211 | 217 | 222 | 227 | 233 | 238 | 244 | 249 | |
| 799 | 255 | 260 | 266 | 271 | 276 | 282 | 287 | 293 | 298 | 304 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 800 | 90 309 | 314 | 320 | 325 | 331 | 336 | 342 | 347 | 352 | 358 | |
| 801 | 363 | 369 | 374 | 380 | 385 | 390 | 396 | 401 | 407 | 412 | |
| 802 | 417 | 423 | 428 | 434 | 439 | 445 | 450 | 455 | 461 | 466 | |
| 803 | 472 | 477 | 482 | 488 | 493 | 499 | 504 | 509 | 515 | 520 | |
| 804 | 526 | 531 | 536 | 542 | 547 | 553 | 558 | 563 | 569 | 574 | |
| 805 | 580 | 585 | 590 | 596 | 601 | 607 | 612 | 617 | 623 | 628 | |
| 806 | 634 | 639 | 644 | 650 | 655 | 660 | 666 | 671 | 677 | 682 | |
| 807 | 687 | 693 | 698 | 703 | 709 | 714 | 720 | 725 | 730 | 736 | |
| 808 | 741 | 747 | 752 | 757 | 763 | 768 | 773 | 779 | 784 | 789 | |
| 809 | 795 | 800 | 806 | 811 | 816 | 822 | 827 | 832 | 838 | 843 | |
| 810 | 849 | 854 | 859 | 865 | 870 | 875 | 881 | 886 | 891 | 897 | |
| 811 | 902 | 907 | 913 | 918 | 924 | 929 | 934 | 940 | 945 | 950 | |
| 812 | 956 | 961 | 966 | 972 | 977 | 982 | 988 | 993 | 998 | *004 | 6 |
| 813 | 91 009 | 014 | 020 | 025 | 030 | 036 | 041 | 046 | 052 | 057 | 1 0.6 |
| 814 | 062 | 068 | 073 | 078 | 084 | 089 | 094 | 100 | 105 | 110 | 2 1.2 |
| 815 | 116 | 121 | 126 | 132 | 137 | 142 | 148 | 153 | 158 | 164 | 3 1.8 |
| 816 | 169 | 174 | 180 | 185 | 190 | 196 | 201 | 206 | 212 | 217 | 4 2.4 |
| 817 | 222 | 228 | 233 | 238 | 243 | 249 | 254 | 259 | 265 | 270 | 5 3.0 |
| 818 | 275 | 281 | 286 | 291 | 297 | 302 | 307 | 312 | 318 | 323 | 6 3.6 |
| 819 | 328 | 334 | 339 | 344 | 350 | 355 | 360 | 365 | 371 | 376 | 7 4.2 |
| 820 | 381 | 387 | 392 | 397 | 403 | 408 | 413 | 418 | 424 | 429 | 8 4.8 |
| 821 | 434 | 440 | 445 | 450 | 455 | 461 | 466 | 471 | 477 | 482 | 9 5.4 |
| 822 | 487 | 492 | 498 | 503 | 508 | 514 | 519 | 524 | 529 | 535 | |
| 823 | 540 | 545 | 551 | 556 | 561 | 566 | 572 | 577 | 582 | 587 | |
| 824 | 593 | 598 | 603 | 609 | 614 | 619 | 624 | 630 | 635 | 640 | |
| 825 | 645 | 651 | 656 | 661 | 666 | 672 | 677 | 682 | 687 | 693 | |
| 826 | 698 | 703 | 709 | 714 | 719 | 724 | 730 | 735 | 740 | 745 | |
| 827 | 751 | 756 | 761 | 766 | 772 | 777 | 782 | 787 | 793 | 798 | |
| 828 | 803 | 808 | 814 | 819 | 824 | 829 | 834 | 840 | 845 | 850 | |
| 829 | 855 | 861 | 866 | 871 | 876 | 882 | 887 | 892 | 897 | 903 | |
| 830 | 908 | 913 | 918 | 924 | 929 | 934 | 939 | 944 | 950 | 955 | |
| 831 | 960 | 965 | 971 | 976 | 981 | 986 | 991 | 997 | *002 | *007 | 5 |
| 832 | 92 012 | 018 | 023 | 028 | 033 | 038 | 044 | 049 | 054 | 059 | 1 0.5 |
| 833 | 065 | 070 | 075 | 080 | 085 | 091 | 096 | 101 | 106 | 111 | 2 1.0 |
| 834 | 117 | 122 | 127 | 132 | 137 | 143 | 148 | 153 | 158 | 163 | 3 1.5 |
| 835 | 169 | 174 | 179 | 184 | 189 | 195 | 200 | 205 | 210 | 215 | 4 2.0 |
| 836 | 221 | 226 | 231 | 236 | 241 | 247 | 252 | 257 | 262 | 267 | 5 2.5 |
| 837 | 273 | 278 | 283 | 288 | 293 | 298 | 304 | 309 | 314 | 319 | 6 3.0 |
| 838 | 324 | 330 | 335 | 340 | 345 | 350 | 355 | 361 | 366 | 371 | 7 3.5 |
| 839 | 376 | 381 | 387 | 392 | 397 | 402 | 407 | 412 | 418 | 423 | 8 4.0 |
| 840 | 428 | 433 | 438 | 443 | 449 | 454 | 459 | 464 | 469 | 474 | 9 4.5 |
| 841 | 480 | 485 | 490 | 495 | 500 | 505 | 511 | 516 | 521 | 526 | |
| 842 | 531 | 536 | 542 | 547 | 552 | 557 | 562 | 567 | 572 | 578 | |
| 843 | 583 | 588 | 593 | 598 | 603 | 609 | 614 | 619 | 624 | 629 | |
| 844 | 634 | 639 | 645 | 650 | 655 | 660 | 665 | 670 | 675 | 681 | |
| 845 | 686 | 691 | 696 | 701 | 706 | 711 | 716 | 722 | 727 | 732 | |
| 846 | 737 | 742 | 747 | 752 | 758 | 763 | 768 | 773 | 778 | 783 | |
| 847 | 788 | 793 | 799 | 804 | 809 | 814 | 819 | 824 | 829 | 834 | |
| 848 | 840 | 845 | 850 | 855 | 860 | 865 | 870 | 875 | 881 | 886 | |
| 849 | 891 | 896 | 901 | 906 | 911 | 916 | 921 | 927 | 932 | 937 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **850** | **92 942** | **947** | **952** | **957** | **962** | **967** | **973** | **978** | **983** | **988** | |
| 851 | 993 | 998 | *003 | *008 | *013 | *018 | *024 | *029 | *034 | *039 | |
| 852 | 93 044 | 049 | 054 | 059 | 064 | 069 | 075 | 080 | 085 | 090 | |
| 853 | 095 | 100 | 105 | 110 | 115 | 120 | 125 | 131 | 136 | 141 | |
| 854 | 146 | 151 | 156 | 161 | 166 | 171 | 176 | 181 | 186 | 192 | |
| **855** | **197** | **202** | **207** | **212** | **217** | **222** | **227** | **232** | **237** | **242** | |
| 856 | 247 | 252 | 258 | 263 | 268 | 273 | 278 | 283 | 288 | 293 | |
| 857 | 298 | 303 | 308 | 313 | 318 | 323 | 328 | 334 | 339 | 344 | |
| 858 | 349 | 354 | 359 | 364 | 369 | 374 | 379 | 384 | 389 | 394 | **6** |
| 859 | 399 | 404 | 409 | 414 | 420 | 425 | 430 | 435 | 440 | 445 | 1 0.6<br>2 1.2<br>3 1.8 |
| **860** | **450** | **455** | **460** | **465** | **470** | **475** | **480** | **485** | **490** | **495** | 4 2.4 |
| 861 | 500 | 505 | 510 | 515 | 520 | 526 | 531 | 536 | 541 | 546 | 5 3.0 |
| 862 | 551 | 556 | 561 | 566 | 571 | 576 | 581 | 586 | 591 | 596 | 6 3.6 |
| 863 | 601 | 606 | 611 | 616 | 621 | 626 | 631 | 636 | 641 | 646 | 7 4.2 |
| 864 | 651 | 656 | 661 | 666 | 671 | 676 | 682 | 687 | 692 | 697 | 8 4.8<br>9 5.4 |
| **865** | **702** | **707** | **712** | **717** | **722** | **727** | **732** | **737** | **742** | **747** | |
| 866 | 752 | 757 | 762 | 767 | 772 | 777 | 782 | 787 | 792 | 797 | |
| 867 | 802 | 807 | 812 | 817 | 822 | 827 | 832 | 837 | 842 | 847 | |
| 868 | 852 | 857 | 862 | 867 | 872 | 877 | 882 | 887 | 892 | 897 | |
| 869 | 902 | 907 | 912 | 917 | 922 | 927 | 932 | 937 | 942 | 947 | |
| **870** | **952** | **957** | **962** | **967** | **972** | **977** | **982** | **987** | **992** | **997** | |
| 871 | 94 002 | 007 | 012 | 017 | 022 | 027 | 032 | 037 | 042 | 047 | **5** |
| 872 | 052 | 057 | 062 | 067 | 072 | 077 | 082 | 086 | 091 | 096 | 1 0.5 |
| 873 | 101 | 106 | 111 | 116 | 121 | 126 | 131 | 136 | 141 | 146 | 2 1.0<br>3 1.5 |
| 874 | 151 | 156 | 161 | 166 | 171 | 176 | 181 | 186 | 191 | 196 | 4 2.0 |
| **875** | **201** | **206** | **211** | **216** | **221** | **226** | **231** | **236** | **240** | **245** | 5 2.5 |
| 876 | 250 | 255 | 260 | 265 | 270 | 275 | 280 | 285 | 290 | 295 | 6 3.0 |
| 877 | 300 | 305 | 310 | 315 | 320 | 325 | 330 | 335 | 340 | 345 | 7 3.5 |
| 878 | 349 | 354 | 359 | 364 | 369 | 374 | 379 | 384 | 389 | 394 | 8 4.0<br>9 4.5 |
| 879 | 399 | 404 | 409 | 414 | 419 | 424 | 429 | 433 | 438 | 443 | |
| **880** | **448** | **453** | **458** | **463** | **468** | **473** | **478** | **483** | **488** | **493** | |
| 881 | 498 | 503 | 507 | 512 | 517 | 522 | 527 | 532 | 537 | 542 | |
| 882 | 547 | 552 | 557 | 562 | 567 | 571 | 576 | 581 | 586 | 591 | |
| 883 | 596 | 601 | 606 | 611 | 616 | 621 | 626 | 630 | 635 | 640 | |
| 884 | 645 | 650 | 655 | 660 | 665 | 670 | 675 | 680 | 685 | 689 | |
| **885** | **694** | **699** | **704** | **709** | **714** | **719** | **724** | **729** | **734** | **738** | **4** |
| 886 | 743 | 748 | 753 | 758 | 763 | 768 | 773 | 778 | 783 | 787 | 1 0.4 |
| 887 | 792 | 797 | 802 | 807 | 812 | 817 | 822 | 827 | 832 | 836 | 2 0.8<br>3 1.2 |
| 888 | 841 | 846 | 851 | 856 | 861 | 866 | 871 | 876 | 880 | 885 | 4 1.6 |
| 889 | 890 | 895 | 900 | 905 | 910 | 915 | 919 | 924 | 929 | 934 | 5 2.0 |
| **890** | **939** | **944** | **949** | **954** | **959** | **963** | **968** | **973** | **978** | **983** | 6 2.4 |
| 891 | 988 | 993 | 998 | *002 | *007 | *012 | *017 | *022 | *027 | *032 | 7 2.8 |
| 892 | 95 036 | 041 | 046 | 051 | 056 | 061 | 066 | 071 | 075 | 080 | 8 3.2<br>9 3.6 |
| 893 | 085 | 090 | 095 | 100 | 105 | 109 | 114 | 119 | 124 | 129 | |
| 894 | 134 | 139 | 143 | 148 | 153 | 158 | 163 | 168 | 173 | 177 | |
| **895** | **182** | **187** | **192** | **197** | **202** | **207** | **211** | **216** | **221** | **226** | |
| 896 | 231 | 236 | 240 | 245 | 250 | 255 | 260 | 265 | 270 | 274 | |
| 897 | 279 | 284 | 289 | 294 | 299 | 303 | 308 | 313 | 318 | 323 | |
| 898 | 328 | 332 | 337 | 342 | 347 | 352 | 357 | 361 | 366 | 371 | |
| 899 | 376 | 381 | 386 | 390 | 395 | 400 | 405 | 410 | 415 | 419 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **900** | 95 424 | 429 | 434 | 439 | 444 | 448 | 453 | 458 | 463 | 468 | |
| 901 | 472 | 477 | 482 | 487 | 492 | 497 | 501 | 506 | 511 | 516 | |
| 902 | 521 | 525 | 530 | 535 | 540 | 545 | 550 | 554 | 559 | 564 | |
| 903 | 569 | 574 | 578 | 583 | 588 | 593 | 598 | 602 | 607 | 612 | |
| 904 | 617 | 622 | 626 | 631 | 636 | 641 | 646 | 650 | 655 | 660 | |
| **905** | 665 | 670 | 674 | 679 | 684 | 689 | 694 | 698 | 703 | 708 | |
| 906 | 713 | 718 | 722 | 727 | 732 | 737 | 742 | 746 | 751 | 756 | |
| 907 | 761 | 766 | 770 | 775 | 780 | 785 | 789 | 794 | 799 | 804 | |
| 908 | 809 | 813 | 818 | 823 | 828 | 832 | 837 | 842 | 847 | 852 | |
| 909 | 856 | 861 | 866 | 871 | 875 | 880 | 885 | 890 | 895 | 899 | |
| **910** | 904 | 909 | 914 | 918 | 923 | 928 | 933 | 938 | 942 | 947 | |
| 911 | 952 | 957 | 961 | 966 | 971 | 976 | 980 | 985 | 990 | 995 | |
| 912 | 999 | *004 | *009 | *014 | *019 | *023 | *028 | *033 | *038 | *042 | 5 |
| 913 | 96 047 | 052 | 057 | 061 | 066 | 071 | 076 | 080 | 085 | 090 | 1 0.5 |
| 914 | 095 | 099 | 104 | 109 | 114 | 118 | 123 | 128 | 133 | 137 | 2 1.0 |
| **915** | 142 | 147 | 152 | 156 | 161 | 166 | 171 | 175 | 180 | 185 | 3 1.5 |
| 916 | 190 | 194 | 199 | 204 | 209 | 213 | 218 | 223 | 227 | 232 | 4 2.0 |
| 917 | 237 | 242 | 246 | 251 | 256 | 261 | 265 | 270 | 275 | 280 | 5 2.5 |
| 918 | 284 | 289 | 294 | 298 | 303 | 308 | 313 | 317 | 322 | 327 | 6 3.0 |
| 919 | 332 | 336 | 341 | 346 | 350 | 355 | 360 | 365 | 369 | 374 | 7 3.5 |
| **920** | 379 | 384 | 388 | 393 | 398 | 402 | 407 | 412 | 417 | 421 | 8 4.0 |
| 921 | 426 | 431 | 435 | 440 | 445 | 450 | 454 | 459 | 464 | 468 | 9 4.5 |
| 922 | 473 | 478 | 483 | 487 | 492 | 497 | 501 | 506 | 511 | 515 | |
| 923 | 520 | 525 | 530 | 534 | 539 | 544 | 548 | 553 | 558 | 562 | |
| 924 | 567 | 572 | 577 | 581 | 586 | 591 | 595 | 600 | 605 | 609 | |
| **925** | 614 | 619 | 624 | 628 | 633 | 638 | 642 | 647 | 652 | 656 | |
| 926 | 661 | 666 | 670 | 675 | 680 | 685 | 689 | 694 | 699 | 703 | |
| 927 | 708 | 713 | 717 | 722 | 727 | 731 | 736 | 741 | 745 | 750 | |
| 928 | 755 | 759 | 764 | 769 | 774 | 778 | 783 | 788 | 792 | 797 | |
| 929 | 802 | 806 | 811 | 816 | 820 | 825 | 830 | 834 | 839 | 844 | |
| **930** | 848 | 853 | 858 | 862 | 867 | 872 | 876 | 881 | 886 | 890 | |
| 931 | 895 | 900 | 904 | 909 | 914 | 918 | 923 | 928 | 932 | 937 | 4 |
| 932 | 942 | 946 | 951 | 956 | 960 | 965 | 970 | 974 | 979 | 984 | 1 0.4 |
| 933 | 988 | 993 | 997 | *002 | *007 | *011 | *016 | *021 | *025 | *030 | 2 0.8 |
| 934 | 97 035 | 039 | 044 | 049 | 053 | 058 | 063 | 067 | 072 | 077 | 3 1.2 |
| **935** | 081 | 086 | 090 | 095 | 100 | 104 | 109 | 114 | 118 | 123 | 4 1.6 |
| 936 | 128 | 132 | 137 | 142 | 146 | 151 | 155 | 160 | 165 | 169 | 5 2.0 |
| 937 | 174 | 179 | 183 | 188 | 192 | 197 | 202 | 206 | 211 | 216 | 6 2.4 |
| 938 | 220 | 225 | 230 | 234 | 239 | 243 | 248 | 253 | 257 | 262 | 7 2.8 |
| 939 | 267 | 271 | 276 | 280 | 285 | 290 | 294 | 299 | 304 | 308 | 8 3.2 |
| **940** | 313 | 317 | 322 | 327 | 331 | 336 | 340 | 345 | 350 | 354 | 9 3.6 |
| 941 | 359 | 364 | 368 | 373 | 377 | 382 | 387 | 391 | 396 | 400 | |
| 942 | 405 | 410 | 414 | 419 | 424 | 428 | 433 | 437 | 442 | 447 | |
| 943 | 451 | 456 | 460 | 465 | 470 | 474 | 479 | 483 | 488 | 493 | |
| 944 | 497 | 502 | 506 | 511 | 516 | 520 | 525 | 529 | 534 | 539 | |
| **945** | 543 | 548 | 552 | 557 | 562 | 566 | 571 | 575 | 580 | 585 | |
| 946 | 589 | 594 | 598 | 603 | 607 | 612 | 617 | 621 | 626 | 630 | |
| 947 | 635 | 640 | 644 | 649 | 653 | 658 | 663 | 667 | 672 | 676 | |
| 948 | 681 | 685 | 690 | 695 | 699 | 704 | 708 | 713 | 717 | 722 | |
| 949 | 727 | 731 | 736 | 740 | 745 | 749 | 754 | 759 | 763 | 768 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **950** | **97 772** | **777** | **782** | **786** | **791** | **795** | **800** | **804** | **809** | **813** | |
| 951 | 818 | 823 | 827 | 832 | 836 | 841 | 845 | 850 | 855 | 859 | |
| 952 | 864 | 868 | 873 | 877 | 882 | 886 | 891 | 896 | 900 | 905 | |
| 953 | 909 | 914 | 918 | 923 | 928 | 932 | 937 | 941 | 946 | 950 | |
| 954 | 955 | 959 | 964 | 968 | 973 | 978 | 982 | 987 | 991 | 996 | |
| **955** | **98 000** | **005** | **009** | **014** | **019** | **023** | **028** | **032** | **037** | **041** | |
| 956 | 046 | 050 | 055 | 059 | 064 | 068 | 073 | 078 | 082 | 087 | |
| 957 | 091 | 096 | 100 | 105 | 109 | 114 | 118 | 123 | 127 | 132 | |
| 958 | 137 | 141 | 146 | 150 | 155 | 159 | 164 | 168 | 173 | 177 | |
| 959 | 182 | 186 | 191 | 195 | 200 | 204 | 209 | 214 | 218 | 223 | |
| **960** | **227** | **232** | **236** | **241** | **245** | **250** | **254** | **259** | **263** | **268** | |
| 961 | 272 | 277 | 281 | 286 | 290 | 295 | 299 | 304 | 308 | 313 | |
| 962 | 318 | 322 | 327 | 331 | 336 | 340 | 345 | 349 | 354 | 358 | **5** |
| 963 | 363 | 367 | 372 | 376 | 381 | 385 | 390 | 394 | 399 | 403 | 1 0.5 |
| 964 | 408 | 412 | 417 | 421 | 426 | 430 | 435 | 439 | 444 | 448 | 2 1.0<br>3 1.5 |
| **965** | **453** | **457** | **462** | **466** | **471** | **475** | **480** | **484** | **489** | **493** | 4 2.0 |
| 966 | 498 | 502 | 507 | 511 | 516 | 520 | 525 | 529 | 534 | 538 | 5 2.5 |
| 967 | 543 | 547 | 552 | 556 | 561 | 565 | 570 | 574 | 579 | 583 | 6 3.0<br>7 3.5 |
| 968 | 588 | 592 | 597 | 601 | 605 | 610 | 614 | 619 | 623 | 628 | 8 4.0 |
| 969 | 632 | 637 | 641 | 646 | 650 | 655 | 659 | 664 | 668 | 673 | 9 4.5 |
| **970** | **677** | **682** | **686** | **691** | **695** | **700** | **704** | **709** | **713** | **717** | |
| 971 | 722 | 726 | 731 | 735 | 740 | 744 | 749 | 753 | 758 | 762 | |
| 972 | 767 | 771 | 776 | 780 | 784 | 789 | 793 | 798 | 802 | 807 | |
| 973 | 811 | 816 | 820 | 825 | 829 | 834 | 838 | 843 | 847 | 851 | |
| 974 | 856 | 860 | 865 | 869 | 874 | 878 | 883 | 887 | 892 | 896 | |
| **975** | **900** | **905** | **909** | **914** | **918** | **923** | **927** | **932** | **936** | **941** | |
| 976 | 945 | 949 | 954 | 958 | 963 | 967 | 972 | 976 | 981 | 985 | |
| 977 | 989 | 994 | 998 | *003 | *007 | *012 | *016 | *021 | *025 | *029 | |
| 978 | 99 034 | 038 | 043 | 047 | 052 | 056 | 061 | 065 | 069 | 074 | |
| 979 | 078 | 083 | 087 | 092 | 096 | 100 | 105 | 109 | 114 | 118 | |
| **980** | **123** | **127** | **131** | **136** | **140** | **145** | **149** | **154** | **158** | **162** | |
| 981 | 167 | 171 | 176 | 180 | 185 | 189 | 193 | 198 | 202 | 207 | **4** |
| 982 | 211 | 216 | 220 | 224 | 229 | 233 | 238 | 242 | 247 | 251 | 1 0.4 |
| 983 | 255 | 260 | 264 | 269 | 273 | 277 | 282 | 286 | 291 | 295 | 2 0.8<br>3 1.2 |
| 984 | 300 | 304 | 308 | 313 | 317 | 322 | 326 | 330 | 335 | 339 | 4 1.6 |
| **985** | **344** | **348** | **352** | **357** | **361** | **366** | **370** | **374** | **379** | **383** | 5 2.0 |
| 986 | 388 | 392 | 396 | 401 | 405 | 410 | 414 | 419 | 423 | 427 | 6 2.4<br>7 2.8 |
| 987 | 432 | 436 | 441 | 445 | 449 | 454 | 458 | 463 | 467 | 471 | 8 3.2 |
| 988 | 476 | 480 | 484 | 489 | 493 | 498 | 502 | 506 | 511 | 515 | 9 3.6 |
| 989 | 520 | 524 | 528 | 533 | 537 | 542 | 546 | 550 | 555 | 559 | |
| **990** | **564** | **568** | **572** | **577** | **581** | **585** | **590** | **594** | **599** | **603** | |
| 991 | 607 | 612 | 616 | 621 | 625 | 629 | 634 | 638 | 642 | 647 | |
| 992 | 651 | 656 | 660 | 664 | 669 | 673 | 677 | 682 | 686 | 691 | |
| 993 | 695 | 699 | 704 | 708 | 712 | 717 | 721 | 726 | 730 | 734 | |
| 994 | 739 | 743 | 747 | 752 | 756 | 760 | 765 | 769 | 774 | 778 | |
| **995** | **782** | **787** | **791** | **795** | **800** | **804** | **808** | **813** | **817** | **822** | |
| 996 | 826 | 830 | 835 | 839 | 843 | 848 | 852 | 856 | 861 | 865 | |
| 997 | 870 | 874 | 878 | 883 | 887 | 891 | 896 | 900 | 904 | 909 | |
| 998 | 913 | 917 | 922 | 926 | 930 | 935 | 939 | 944 | 948 | 952 | |
| 999 | 957 | 961 | 965 | 970 | 974 | 978 | 983 | 987 | 991 | 996 | |
| N. | L. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | PP. |

# TABLE

of

# LOGARITHMS

of the

# Sine and Tangent

Varying by

## Ten Seconds from 0° to 3°

and of the

# Cosine and Cotangent

Varying by

## Ten Seconds from 87° to 90°

---

Note. 1—As an inspection of the following pages will show, tables of proportional parts for seconds are given for the part from 1° to 3° only. For calculations, closer than to 10 seconds, with angles between 0° and 1°, the columns headed "Sec." "S" and "T" on page 30 and 31 are provided. See page 28 for their application.

Note 2.—For angles between 87° and 90° read from bottom of page upward.

# L. Sine 0°

| ′ | 0″ | 10″ | 20″ | 30″ | 40″ | 50″ | 60″ | |
|---|---|---|---|---|---|---|---|---|
| 0 | ..... | 5.68557 | 5.98660 | 6.16270 | 6.28763 | 6.38454 | 6.46373 | 59 |
| 1 | 6.46373 | 6.53067 | 6.58866 | 6.63982 | 6.68557 | 6.72697 | 6.76476 | 58 |
| 2 | 6.76476 | 6.79952 | 6.83170 | 6.86167 | 6.88969 | 6.91602 | 6.94085 | 57 |
| 3 | 6.94085 | 6.96433 | 6.98660 | 7.00779 | 7.02800 | 7.04730 | 7.06579 | 56 |
| 4 | 7.06579 | 7.08351 | 7.10055 | 7.11694 | 7.13273 | 7.14797 | 7.16270 | 55 |
| 5 | 7.16270 | 7.17694 | 7.19072 | 7.20409 | 7.21705 | 7.22964 | 7.24188 | 54 |
| 6 | 7.24188 | 7.25378 | 7.26536 | 7.27664 | 7.28763 | 7.29836 | 7.30882 | 53 |
| 7 | 7.30882 | 7.31904 | 7.32903 | 7.33879 | 7.34833 | 7.35767 | 7.36682 | 52 |
| 8 | 7.36682 | 7.37577 | 7.38454 | 7.39314 | 7.40158 | 7.40985 | 7.41797 | 51 |
| 9 | 7.41797 | 7.42594 | 7.43376 | 7.44145 | 7.44900 | 7.45643 | 7.46373 | 50 |
| 10 | 7.46373 | 7.47090 | 7.47797 | 7.48491 | 7.49175 | 7.49849 | 7.50512 | 49 |
| 11 | 7.50512 | 7.51165 | 7.51808 | 7.52442 | 7.53067 | 7.53683 | 7.54291 | 48 |
| 12 | 7.54291 | 7.54890 | 7.55481 | 7.56064 | 7.56639 | 7.57206 | 7.57767 | 47 |
| 13 | 7.57767 | 7.58320 | 7.58866 | 7.59406 | 7.59939 | 7.60465 | 7.60985 | 46 |
| 14 | 7.60985 | 7.61499 | 7.62007 | 7.62509 | 7.63006 | 7.63496 | 7.63982 | 45 |
| 15 | 7.63982 | 7.64461 | 7.64936 | 7.65406 | 7.65870 | 7.66330 | 7.66784 | 44 |
| 16 | 7.66784 | 7.67235 | 7.67680 | 7.68121 | 7.68557 | 7.68989 | 7.69417 | 43 |
| 17 | 7.69417 | 7.69841 | 7.70261 | 7.70676 | 7.71088 | 7.71496 | 7.71900 | 42 |
| 18 | 7.71900 | 7.72300 | 7.72697 | 7.73090 | 7.73479 | 7.73865 | 7.74248 | 41 |
| 19 | 7.74248 | 7.74627 | 7.75003 | 7.75376 | 7.75745 | 7.76112 | 7.76475 | 40 |
| 20 | 7.76475 | 7.76836 | 7.77193 | 7.77548 | 7.77899 | 7.78248 | 7.78594 | 39 |
| 21 | 7.78594 | 7.78938 | 7.79278 | 7.79616 | 7.79952 | 7.80284 | 7.80615 | 38 |
| 22 | 7.80615 | 7.80942 | 7.81268 | 7.81591 | 7.81911 | 7.82229 | 7.82545 | 37 |
| 23 | 7.82545 | 7.82859 | 7.83170 | 7.83479 | 7.83786 | 7.84091 | 7.84393 | 36 |
| 24 | 7.84393 | 7.84694 | 7.84992 | 7.85289 | 7.85583 | 7.85876 | 7.86166 | 35 |
| 25 | 7.86166 | 7.86455 | 7.86741 | 7.87026 | 7.87309 | 7.87590 | 7.87870 | 34 |
| 26 | 7.87870 | 7.88147 | 7.88423 | 7.88697 | 7.88969 | 7.89240 | 7.89509 | 33 |
| 27 | 7.89509 | 7.89776 | 7.90041 | 7.90305 | 7.90568 | 7.90829 | 7.91088 | 32 |
| 28 | 7.91088 | 7.91346 | 7.91602 | 7.91857 | 7.92110 | 7.92362 | 7.92612 | 31 |
| 29 | 7.92612 | 7.92861 | 7.93108 | 7.93354 | 7.93599 | 7.93842 | 7.94084 | 30 |
| 30 | 7.94084 | 7.94325 | 7.94564 | 7.94802 | 7.95039 | 7.95274 | 7.95508 | 29 |
| 31 | 7.95508 | 7.95741 | 7.95973 | 7.96203 | 7.96432 | 7.96660 | 7.96887 | 28 |
| 32 | 7.96887 | 7.97113 | 7.97337 | 7.97560 | 7.97782 | 7.98003 | 7.98223 | 27 |
| 33 | 7.98223 | 7.98442 | 7.98660 | 7.98876 | 7.99092 | 7.99306 | 7.99520 | 26 |
| 34 | 7.99520 | 7.99732 | 7.99943 | 8.00154 | 8.00363 | 8.00571 | 8.00779 | 25 |
| 35 | 8.00779 | 8.00985 | 8.01190 | 8.01395 | 8.01598 | 8.01801 | 8.02002 | 24 |
| 36 | 8.02002 | 8.02203 | 8.02402 | 8.02601 | 8.02799 | 8.02996 | 8.03192 | 23 |
| 37 | 8.03192 | 8.03387 | 8.03581 | 8.03775 | 8.03967 | 8.04159 | 8.04350 | 22 |
| 38 | 8.04350 | 8.04540 | 8.04729 | 8.04918 | 8.05105 | 8.05292 | 8.05478 | 21 |
| 39 | 8.05478 | 8.05663 | 8.05848 | 8.06031 | 8.06214 | 8.06396 | 8.06578 | 20 |
| 40 | 8.06578 | 8.06758 | 8.06938 | 8.07117 | 8.07295 | 8.07473 | 8.07650 | 19 |
| 41 | 8.07650 | 8.07826 | 8.08002 | 8.08176 | 8.08350 | 8.08524 | 8.08696 | 18 |
| 42 | 8.08696 | 8.08868 | 8.09040 | 8.09210 | 8.09380 | 8.09550 | 8.09718 | 17 |
| 43 | 8.09718 | 8.09886 | 8.10054 | 8.10220 | 8.10386 | 8.10552 | 8.10717 | 16 |
| 44 | 8.10717 | 8.10881 | 8.11044 | 8.11207 | 8.11370 | 8.11531 | 8.11693 | 15 |
| 45 | 8.11693 | 8.11853 | 8.12013 | 8.12172 | 8.12331 | 8.12489 | 8.12647 | 14 |
| 46 | 8.12647 | 8.12804 | 8.12961 | 8.13117 | 8.13272 | 8.13427 | 8.13581 | 13 |
| 47 | 8.13581 | 8.13735 | 8.13888 | 8.14041 | 8.14193 | 8.14344 | 8.14495 | 12 |
| 48 | 8.14495 | 8.14646 | 8.14796 | 8.14945 | 8.15094 | 8.15243 | 8.15391 | 11 |
| 49 | 8.15391 | 8.15538 | 8.15685 | 8.15832 | 8.15978 | 8.16123 | 8.16268 | 10 |
| 50 | 8.16268 | 8.16413 | 8.16557 | 8.16700 | 8.16843 | 8.16986 | 8.17128 | 9 |
| 51 | 8.17128 | 8.17270 | 8.17411 | 8.17552 | 8.17692 | 8.17832 | 8.17971 | 8 |
| 52 | 8.17971 | 8.18110 | 8.18249 | 8.18387 | 8.18524 | 8.18662 | 8.18798 | 7 |
| 53 | 8.18798 | 8.18935 | 8.19071 | 8.19206 | 8.19341 | 8.19476 | 8.19610 | 6 |
| 54 | 8.19610 | 8.19744 | 8.19877 | 8.20010 | 8.20143 | 8.20275 | 8.20407 | 5 |
| 55 | 8.20407 | 8.20538 | 8.20669 | 8.20800 | 8.20930 | 8.21060 | 8.21189 | 4 |
| 56 | 8.21189 | 8.21319 | 8.21447 | 8.21576 | 8.21703 | 8.21831 | 8.21958 | 3 |
| 57 | 8.21958 | 8.22085 | 8.22211 | 8.22337 | 8.22463 | 8.22588 | 8.22713 | 2 |
| 58 | 8.22713 | 8.22838 | 8.22962 | 8.23086 | 8.23210 | 8.23333 | 8.23456 | 1 |
| 59 | 8.23456 | 8.23578 | 8.23700 | 8.23822 | 8.23944 | 8.24065 | 8.24186 | 0 |
| | 60″ | 50″ | 40″ | 30″ | 20″ | 10″ | 0″ | ′ |

# L. Cos. 89°

# L. Tang. 0°

| ′ | 0″ | 10″ | 20″ | 30″ | 40″ | 50″ | 60″ | |
|---|---|---|---|---|---|---|---|---|
| 0 | ..... | 5.68557 | 5.98660 | 6.16270 | 6.28763 | 6.38454 | 6.46373 | 59 |
| 1 | 6.46373 | 6.53067 | 6.58866 | 6.63982 | 6.68557 | 6.72697 | 6.76476 | 58 |
| 2 | 6.76476 | 6.79952 | 6.83170 | 6.86167 | 6.88969 | 6.91602 | 6.94085 | 57 |
| 3 | 6.94085 | 6.96433 | 6.98660 | 7.00779 | 7.02800 | 7.04730 | 7.06579 | 56 |
| 4 | 7.06579 | 7.08352 | 7.10055 | 7.11694 | 7.13273 | 7.14797 | 7.16270 | 55 |
| 5 | 7.16270 | 7.17694 | 7.19073 | 7.20409 | 7.21705 | 7.22964 | 7.24188 | 54 |
| 6 | 7.24188 | 7.25378 | 7.26536 | 7.27664 | 7.28764 | 7.29836 | 7.30882 | 53 |
| 7 | 7.30882 | 7.31904 | 7.32903 | 7.33879 | 7.34833 | 7.35767 | 7.36682 | 52 |
| 8 | 7.36682 | 7.37577 | 7.38455 | 7.39315 | 7.40158 | 7.40985 | 7.41797 | 51 |
| 9 | 7.41797 | 7.42594 | 7.43376 | 7.44145 | 7.44900 | 7.45643 | 7.46373 | 50 |
| 10 | 7.46373 | 7.47091 | 7.47797 | 7.48492 | 7.49176 | 7.49849 | 7.50512 | 49 |
| 11 | 7.50512 | 7.51165 | 7.51809 | 7.52443 | 7.53067 | 7.53683 | 7.54291 | 48 |
| 12 | 7.54291 | 7.54890 | 7.55481 | 7.56064 | 7.56639 | 7.57207 | 7.57767 | 47 |
| 13 | 7.57767 | 7.58320 | 7.58867 | 7.59406 | 7.59939 | 7.60466 | 7.60986 | 46 |
| 14 | 7.60986 | 7.61500 | 7.62008 | 7.62510 | 7.63006 | 7.63497 | 7.63982 | 45 |
| 15 | 7.63982 | 7.64462 | 7.64937 | 7.65406 | 7.65871 | 7.66330 | 7.66785 | 44 |
| 16 | 7.66785 | 7.67235 | 7.67680 | 7.68121 | 7.68558 | 7.68990 | 7.69418 | 43 |
| 17 | 7.69418 | 7.69842 | 7.70261 | 7.70677 | 7.71088 | 7.71496 | 7.71900 | 42 |
| 18 | 7.71900 | 7.72301 | 7.72697 | 7.73090 | 7.73480 | 7.73866 | 7.74248 | 41 |
| 19 | 7.74248 | 7.74628 | 7.75004 | 7.75377 | 7.75746 | 7.76113 | 7.76476 | 40 |
| 20 | 7.76476 | 7.76837 | 7.77194 | 7.77549 | 7.77900 | 7.78249 | 7.78595 | 39 |
| 21 | 7.78595 | 7.78938 | 7.79279 | 7.79617 | 7.79952 | 7.80285 | 7.80615 | 38 |
| 22 | 7.80615 | 7.80943 | 7.81269 | 7.81591 | 7.81912 | 7.82230 | 7.82546 | 37 |
| 23 | 7.82546 | 7.82860 | 7.83171 | 7.83480 | 7.83787 | 7.84092 | 7.84394 | 36 |
| 24 | 7.84394 | 7.84695 | 7.84993 | 7.85290 | 7.85584 | 7.85877 | 7.86167 | 35 |
| 25 | 7.86167 | 7.86456 | 7.86743 | 7.87027 | 7.87310 | 7.87591 | 7.87871 | 34 |
| 26 | 7.87871 | 7.88148 | 7.88424 | 7.88698 | 7.88970 | 7.89241 | 7.89510 | 33 |
| 27 | 7.89510 | 7.89777 | 7.90043 | 7.90307 | 7.90569 | 7.90830 | 7.91089 | 32 |
| 28 | 7.91089 | 7.91347 | 7.91603 | 7.91858 | 7.92111 | 7.92363 | 7.92613 | 31 |
| 29 | 7.92613 | 7.92862 | 7.93110 | 7.93356 | 7.93601 | 7.93844 | 7.94086 | 30 |
| 30 | 7.94086 | 7.94326 | 7.94566 | 7.94804 | 7.95040 | 7.95276 | 7.95510 | 29 |
| 31 | 7.95510 | 7.95743 | 7.95974 | 7.96205 | 7.96434 | 7.96662 | 7.96889 | 28 |
| 32 | 7.96889 | 7.97114 | 7.97339 | 7.97562 | 7.97784 | 7.98005 | 7.98225 | 27 |
| 33 | 7.98225 | 7.98444 | 7.98662 | 7.98878 | 7.99094 | 7.99308 | 7.99522 | 26 |
| 34 | 7.99522 | 7.99734 | 7.99946 | 8.00156 | 8.00365 | 8.00574 | 8.00781 | 25 |
| 35 | 8.00781 | 8.00987 | 8.01193 | 8.01397 | 8.01600 | 8.01803 | 8.02004 | 24 |
| 36 | 8.02004 | 8.02205 | 8.02405 | 8.02604 | 8.02801 | 8.02998 | 8.03194 | 23 |
| 37 | 8.03194 | 8.03390 | 8.03584 | 8.03777 | 8.03970 | 8.04162 | 8.04353 | 22 |
| 38 | 8.04353 | 8.04543 | 8.04732 | 8.04921 | 8.05108 | 8.05295 | 8.05481 | 21 |
| 39 | 8.05481 | 8.05666 | 8.05851 | 8.06034 | 8.06217 | 8.06399 | 8.06581 | 20 |
| 40 | 8.06581 | 8.06761 | 8.06941 | 8.07120 | 8.07298 | 8.07476 | 8.07653 | 19 |
| 41 | 8.07653 | 8.07829 | 8.08005 | 8.08180 | 8.08354 | 8.08527 | 8.08700 | 18 |
| 42 | 8.08700 | 8.08872 | 8.09043 | 8.09214 | 8.09384 | 8.09553 | 8.09722 | 17 |
| 43 | 8.09722 | 8.09890 | 8.10057 | 8.10224 | 8.10390 | 8.10555 | 8.10720 | 16 |
| 44 | 8.10720 | 8.10884 | 8.11048 | 8.11211 | 8.11373 | 8.11535 | 8.11696 | 15 |
| 45 | 8.11696 | 8.11857 | 8.12017 | 8.12176 | 8.12335 | 8.12493 | 8.12651 | 14 |
| 46 | 8.12651 | 8.12808 | 8.12965 | 8.13121 | 8.13276 | 8.13431 | 8.13585 | 13 |
| 47 | 8.13585 | 8.13739 | 8.13892 | 8.14045 | 8.14197 | 8.14348 | 8.14500 | 12 |
| 48 | 8.14500 | 8.14650 | 8.14800 | 8.14950 | 8.15099 | 8.15247 | 8.15395 | 11 |
| 49 | 8.15395 | 8.15543 | 8.15690 | 8.15836 | 8.15982 | 8.16128 | 8.16273 | 10 |
| 50 | 8.16273 | 8.16417 | 8.16561 | 8.16705 | 8.16848 | 8.16991 | 8.17133 | 9 |
| 51 | 8.17133 | 8.17275 | 8.17416 | 8.17557 | 8.17697 | 8.17837 | 8.17976 | 8 |
| 52 | 8.17976 | 8.18115 | 8.18254 | 8.18392 | 8.18530 | 8.18667 | 8.18804 | 7 |
| 53 | 8.18804 | 8.18940 | 8.19076 | 8.19211 | 8.19347 | 8.19481 | 8.19616 | 6 |
| 54 | 8.19616 | 8.19749 | 8.19883 | 8.20016 | 8.20149 | 8.20281 | 8.20413 | 5 |
| 55 | 8.20413 | 8.20544 | 8.20675 | 8.20806 | 8.20936 | 8.21066 | 8.21195 | 4 |
| 56 | 8.21195 | 8.21324 | 8.21453 | 8.21581 | 8.21709 | 8.21837 | 8.21964 | 3 |
| 57 | 8.21964 | 8.22091 | 8.22217 | 8.22343 | 8.22469 | 8.22595 | 8.22720 | 2 |
| 58 | 8.22720 | 8.22844 | 8.22968 | 8.23092 | 8.23216 | 8.23339 | 8.23462 | 1 |
| 59 | 8.23462 | 8.23585 | 8.23707 | 8.23829 | 8.23950 | 8.24071 | 8.24192 | 0 |
| | 60″ | 50″ | 40″ | 30″ | 20″ | 10″ | 0″ | ′ |

# L. Cotang. 89°

# L. Sine 1°

| ′ | 0″ | 10″ | 20″ | 30″ | 40″ | 50″ | 60″ | | d. |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 8.24 186 | 306 | 426 | 546 | 665 | 785 | 903 | 59 | 120 |
| 1 | 903 | *022 | *140 | *258 | *375 | *493 | *609 | 58 | 118 |
| 2 | 8.25 609 | 726 | 842 | 958 | *074 | *189 | *304 | 57 | 116 |
| 3 | 8.26 304 | 419 | 533 | 648 | 761 | 875 | 988 | 56 | 114 |
| 4 | 988 | *101 | *214 | *326 | *438 | *550 | *661 | 55 | 112 |
| 5 | 8.27 661 | 773 | 883 | 994 | *104 | *215 | *324 | 54 | 110 |
| 6 | 8.28 324 | 434 | 543 | 652 | 761 | 869 | 977 | 53 | 109 |
| 7 | 977 | *085 | *193 | *300 | *407 | *514 | *621 | 52 | 107 |
| 8 | 8.29 621 | 727 | 833 | 939 | *044 | *150 | *255 | 51 | 106 |
| 9 | 8.30 255 | 359 | 464 | 568 | 672 | 776 | 879 | 50 | 104 |
| 10 | 879 | 983 | *086 | *188 | *291 | *393 | *495 | 49 | 103 |
| 11 | 8.31 495 | 597 | 699 | 800 | 901 | *002 | *103 | 48 | 101 |
| 12 | 8.32 103 | 203 | 303 | 403 | 503 | 602 | 702 | 47 | 100 |
| 13 | 702 | 801 | 899 | 998 | *096 | *195 | *292 | 46 | 98 |
| 14 | 8.33 292 | 390 | 488 | 585 | 682 | 779 | 875 | 45 | 97 |
| 15 | 875 | 972 | *068 | *164 | *260 | *355 | *450 | 44 | 96 |
| 16 | 8.34 450 | 546 | 640 | 735 | 830 | 924 | *018 | 43 | 95 |
| 17 | 8.35 018 | 112 | 206 | 299 | 392 | 485 | 578 | 42 | 93 |
| 18 | 578 | 671 | 764 | 856 | 948 | *040 | *131 | 41 | 92 |
| 19 | 8.36 131 | 223 | 314 | 405 | 496 | 587 | 678 | 40 | 91 |
| 20 | 678 | 768 | 858 | 948 | *038 | *128 | *217 | 39 | 90 |
| 21 | 8.37 217 | 306 | 395 | 484 | 573 | 662 | 750 | 38 | 89 |
| 22 | 750 | 838 | 926 | *014 | *101 | *189 | *276 | 37 | 88 |
| 23 | 8.38 276 | 363 | 450 | 537 | 624 | 710 | 796 | 36 | 87 |
| 24 | 796 | 882 | 968 | *054 | *139 | *225 | *310 | 35 | 86 |
| 25 | 8.39 310 | 395 | 480 | 565 | 649 | 734 | 818 | 34 | 85 |
| 26 | 818 | 902 | 986 | *070 | *153 | *237 | *320 | 33 | 84 |
| 27 | 8.40 320 | 403 | 486 | 569 | 651 | 734 | 816 | 32 | 83 |
| 28 | 816 | 898 | 980 | *062 | *144 | *225 | *307 | 31 | 82 |
| 29 | 8.41 307 | 388 | 469 | 550 | 631 | 711 | 792 | 30 | 81 |
| 30 | 792 | 872 | 952 | *032 | *112 | *192 | *272 | 29 | 80 |
| 31 | 8.42 272 | 351 | 430 | 510 | 589 | 667 | 746 | 28 | 79 |
| 32 | 746 | 825 | 903 | 982 | *060 | *138 | *216 | 27 | 78 |
| 33 | 8.43 216 | 293 | 371 | 448 | 526 | 603 | 680 | 26 | 77 |
| 34 | 680 | 757 | 834 | 910 | 987 | *063 | *139 | 25 | 76 |
| 35 | 8.44 139 | 216 | 292 | 367 | 443 | 519 | 594 | 24 | 76 |
| 36 | 594 | 669 | 745 | 820 | 895 | 969 | *044 | 23 | 75 |
| 37 | 8.45 044 | 119 | 193 | 267 | 341 | 415 | 489 | 22 | 74 |
| 38 | 489 | 563 | 637 | 710 | 784 | 857 | 930 | 21 | 74 |
| 39 | 930 | *003 | *076 | *149 | *222 | *294 | *366 | 20 | 73 |
| 40 | 8.46 366 | 439 | 511 | 583 | 655 | 727 | 799 | 19 | 72 |
| 41 | 799 | 870 | 942 | *013 | *084 | *155 | *226 | 18 | 71 |
| 42 | 8.47 226 | 297 | 368 | 439 | 509 | 580 | 650 | 17 | 71 |
| 43 | 650 | 720 | 790 | 860 | 930 | *000 | *069 | 16 | 70 |
| 44 | 8.48 069 | 139 | 208 | 278 | 347 | 416 | 485 | 15 | 69 |
| 45 | 485 | 554 | 622 | 691 | 760 | 828 | 896 | 14 | 68 |
| 46 | 896 | 965 | *033 | *101 | *169 | *236 | *304 | 13 | 68 |
| 47 | 8.49 304 | 372 | 439 | 506 | 574 | 641 | 708 | 12 | 67 |
| 48 | 708 | 775 | 842 | 908 | 975 | *042 | *108 | 11 | 67 |
| 49 | 8.50 108 | 174 | 241 | 307 | 373 | 439 | 504 | 10 | 66 |
| 50 | 504 | 570 | 636 | 701 | 767 | 832 | 897 | 9 | 66 |
| 51 | 897 | 963 | *028 | *092 | *157 | *222 | *287 | 8 | 65 |
| 52 | 8.51 287 | 351 | 416 | 480 | 544 | 609 | 673 | 7 | 64 |
| 53 | 673 | 737 | 801 | 864 | 928 | 992 | *055 | 6 | 64 |
| 54 | 8.52 055 | 119 | 182 | 245 | 308 | 371 | 434 | 5 | 63 |
| 55 | 434 | 497 | 560 | 623 | 685 | 748 | 810 | 4 | 63 |
| 56 | 810 | 872 | 935 | 997 | *059 | *121 | *183 | 3 | 62 |
| 57 | 8.53 183 | 245 | 306 | 368 | 429 | 491 | 552 | 2 | 62 |
| 58 | 552 | 614 | 675 | 736 | 797 | 858 | 919 | 1 | 61 |
| 59 | 919 | 979 | *040 | *101 | *161 | *222 | *282 | 0 | 60 |
| | 60″ | 50″ | 40″ | 30″ | 20″ | 10″ | 0″ | ′ | d. |

PP.

| | 120 | 119 | 118 | 117 | 116 |
|---|---|---|---|---|---|
| 1 | 12.0 | 11.9 | 11.8 | 11.7 | 11.6 |
| 2 | 24.0 | 23.8 | 23.6 | 23.4 | 23.2 |
| 3 | 36.0 | 35.7 | 35.4 | 35.1 | 34.8 |
| 4 | 48.0 | 47.6 | 47.2 | 46.8 | 46.4 |
| 5 | 60.0 | 59.5 | 59.0 | 58.5 | 58.0 |
| 6 | 72.0 | 71.4 | 70.8 | 70.2 | 69.6 |
| 7 | 84.0 | 83.3 | 82.6 | 81.9 | 81.2 |
| 8 | 96.0 | 95.2 | 94.4 | 93.6 | 92.8 |
| 9 | 108.0 | 107.1 | 106.2 | 105.3 | 104.4 |

| | 115 | 114 | 113 | 112 | 111 |
|---|---|---|---|---|---|
| 1 | 11.5 | 11.4 | 11.3 | 11.2 | 11.1 |
| 2 | 23.0 | 22.8 | 22.6 | 22.4 | 22.2 |
| 3 | 34.5 | 34.2 | 33.9 | 33.6 | 33.3 |
| 4 | 46.0 | 45.6 | 45.2 | 44.8 | 44.4 |
| 5 | 57.5 | 57.0 | 56.5 | 56.0 | 55.5 |
| 6 | 69.0 | 68.4 | 67.8 | 67.2 | 66.6 |
| 7 | 80.5 | 79.8 | 79.1 | 78.4 | 77.7 |
| 8 | 92.0 | 91.2 | 90.4 | 89.6 | 88.8 |
| 9 | 103.5 | 102.6 | 101.7 | 100.8 | 99.9 |

| | 110 | 109 | 108 | 107 | 106 |
|---|---|---|---|---|---|
| 1 | 11.0 | 10.9 | 10.8 | 10.7 | 10.6 |
| 2 | 22.0 | 21.8 | 21.6 | 21.4 | 21.2 |
| 3 | 33.0 | 32.7 | 32.4 | 32.1 | 31.8 |
| 4 | 44.0 | 43.6 | 43.2 | 42.8 | 42.4 |
| 5 | 55.0 | 54.5 | 54.0 | 53.5 | 53.0 |
| 6 | 66.0 | 65.4 | 64.8 | 64.2 | 63.6 |
| 7 | 77.0 | 76.3 | 75.6 | 74.9 | 74.2 |
| 8 | 88.0 | 87.2 | 86.4 | 85.6 | 84.8 |
| 9 | 99.0 | 98.1 | 97.2 | 96.3 | 95.4 |

| | 105 | 104 | 103 | 102 | 101 |
|---|---|---|---|---|---|
| 1 | 10.5 | 10.4 | 10.3 | 10.2 | 10.1 |
| 2 | 21.0 | 20.8 | 20.6 | 20.4 | 20.2 |
| 3 | 31.5 | 31.2 | 30.9 | 30.6 | 30.3 |
| 4 | 42.0 | 41.6 | 41.2 | 40.8 | 40.4 |
| 5 | 52.5 | 52.0 | 51.5 | 51.0 | 50.5 |
| 6 | 63.0 | 62.4 | 61.8 | 61.2 | 60.6 |
| 7 | 73.5 | 72.8 | 72.1 | 71.4 | 70.7 |
| 8 | 84.0 | 83.2 | 82.4 | 81.6 | 80.8 |
| 9 | 94.5 | 93.6 | 92.7 | 91.8 | 90.9 |

| | 100 | 99 | 98 | 97 | 96 |
|---|---|---|---|---|---|
| 1 | 10.0 | 9.9 | 9.8 | 9.7 | 9.6 |
| 2 | 20.0 | 19.8 | 19.6 | 19.4 | 19.2 |
| 3 | 30.0 | 29.7 | 29.4 | 29.1 | 28.8 |
| 4 | 40.0 | 39.6 | 39.2 | 38.8 | 38.4 |
| 5 | 50.0 | 49.5 | 49.0 | 48.5 | 48.0 |
| 6 | 60.0 | 59.4 | 58.8 | 58.2 | 57.6 |
| 7 | 70.0 | 69.3 | 68.6 | 67.9 | 67.2 |
| 8 | 80.0 | 79.2 | 78.4 | 77.6 | 76.8 |
| 9 | 90.0 | 89.1 | 88.2 | 87.3 | 86.4 |

| | 95 | 94 | 93 | 92 | 91 |
|---|---|---|---|---|---|
| 1 | 9.5 | 9.4 | 9.3 | 9.2 | 9.1 |
| 2 | 19.0 | 18.8 | 18.6 | 18.4 | 18.2 |
| 3 | 28.5 | 28.2 | 27.9 | 27.6 | 27.3 |
| 4 | 38.0 | 37.6 | 37.2 | 36.8 | 36.4 |
| 5 | 47.5 | 47.0 | 46.5 | 46.0 | 45.5 |
| 6 | 57.0 | 56.4 | 55.8 | 55.2 | 54.6 |
| 7 | 66.5 | 65.8 | 65.1 | 64.4 | 63.7 |
| 8 | 76.0 | 75.2 | 74.4 | 73.6 | 72.8 |
| 9 | 85.5 | 84.6 | 83.7 | 82.8 | 81.9 |

PP.

# L. Cos. 88°

| ′ | 0″ | 10″ | 20″ | 30″ | 40″ | 50″ | 60″ | | d. |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 8.24 192 | 313 | 433 | 553 | 672 | 791 | 910 | 59 | 120 |
| 1 | 910 | *029 | *147 | *265 | *382 | *500 | *616 | 58 | 118 |
| 2 | 8.25 616 | 733 | 849 | 965 | *081 | *196 | *312 | 57 | 116 |
| 3 | 8.26 312 | 426 | 541 | 655 | 769 | 882 | 996 | 56 | 114 |
| 4 | 996 | *109 | *221 | *334 | *446 | *558 | *669 | 55 | 112 |
| 5 | 8.27 669 | 780 | 891 | *002 | *112 | *223 | *332 | 54 | 110 |
| 6 | 8.28 332 | 442 | 551 | 660 | 769 | 877 | 986 | 53 | 109 |
| 7 | 986 | *094 | *201 | *309 | *416 | *523 | *629 | 52 | 107 |
| 8 | 8.29 629 | 736 | 842 | 947 | *053 | *158 | *263 | 51 | 106 |
| 9 | 8.30 263 | 368 | 473 | 577 | 681 | 785 | 888 | 50 | 104 |
| 10 | 888 | 992 | *095 | *198 | *300 | *403 | *505 | 49 | 103 |
| 11 | 8.31 505 | 606 | 708 | 809 | 911 | *012 | *112 | 48 | 101 |
| 12 | 8.32 112 | 213 | 313 | 413 | 513 | 612 | 711 | 47 | 100 |
| 13 | 711 | 810 | 909 | *008 | *106 | *205 | *302 | 46 | 98 |
| 14 | 8.33 302 | 400 | 498 | 595 | 692 | 789 | 886 | 45 | 97 |
| 15 | 886 | 982 | *078 | *174 | *270 | *366 | *461 | 44 | 96 |
| 16 | 8.34 461 | 556 | 651 | 746 | 840 | 935 | *029 | 43 | 95 |
| 17 | 8.35 029 | 123 | 217 | 310 | 403 | 497 | 590 | 42 | 94 |
| 18 | 590 | 682 | 775 | 867 | 959 | *051 | *143 | 41 | 92 |
| 19 | 8.36 143 | 235 | 326 | 417 | 508 | 599 | 689 | 40 | 91 |
| 20 | 689 | 780 | 870 | 960 | *050 | *140 | *229 | 39 | 90 |
| 21 | 8.37 229 | 318 | 408 | 497 | 585 | 674 | 762 | 38 | 89 |
| 22 | 762 | 850 | 938 | *026 | *114 | *202 | *289 | 37 | 88 |
| 23 | 8.38 289 | 376 | 463 | 550 | 636 | 723 | 809 | 36 | 87 |
| 24 | 809 | 895 | 981 | *067 | *153 | *238 | *323 | 35 | 86 |
| 25 | 8.39 323 | 408 | 493 | 578 | 663 | 747 | 832 | 34 | 85 |
| 26 | 832 | 916 | *000 | *083 | *167 | *250 | *334 | 33 | 84 |
| 27 | 8.40 334 | 417 | 500 | 583 | 665 | 748 | 830 | 32 | 83 |
| 28 | 830 | 913 | 995 | *077 | *158 | *240 | *321 | 31 | 82 |
| 29 | 8.41 321 | 403 | 484 | 565 | 646 | 726 | 807 | 30 | 81 |
| 30 | 807 | 887 | 967 | *048 | *127 | *207 | *287 | 29 | 80 |
| 31 | 8.42 287 | 366 | 446 | 525 | 604 | 683 | 762 | 28 | 79 |
| 32 | 762 | 840 | 919 | 997 | *075 | *154 | *232 | 27 | 78 |
| 33 | 8.43 232 | 309 | 387 | 464 | 542 | 619 | 696 | 26 | 77 |
| 34 | 696 | 773 | 850 | 927 | *003 | *080 | *156 | 25 | 77 |
| 35 | 8.44 156 | 232 | 308 | 384 | 460 | 536 | 611 | 24 | 76 |
| 36 | 611 | 686 | 762 | 837 | 912 | 987 | *061 | 23 | 75 |
| 37 | 8.45 061 | 136 | 210 | 285 | 359 | 433 | 507 | 22 | 74 |
| 38 | 507 | 581 | 655 | 728 | 802 | 875 | 948 | 21 | 74 |
| 39 | 948 | *021 | *094 | *167 | *240 | *312 | *385 | 20 | 73 |
| 40 | 8.46 385 | 457 | 529 | 602 | 674 | 745 | 817 | 19 | 72 |
| 41 | 817 | 889 | 960 | *032 | *103 | *174 | *245 | 18 | 71 |
| 42 | 8.47 245 | 316 | 387 | 458 | 528 | 599 | 669 | 17 | 71 |
| 43 | 669 | 740 | 810 | 880 | 950 | *020 | *089 | 16 | 70 |
| 44 | 8.48 089 | 159 | 228 | 298 | 367 | 436 | 505 | 15 | 69 |
| 45 | 505 | 574 | 643 | 711 | 780 | 849 | 917 | 14 | 69 |
| 46 | 917 | 985 | *053 | *121 | *189 | *257 | *325 | 13 | 68 |
| 47 | 8.49 325 | 393 | 460 | 528 | 595 | 662 | 729 | 12 | 67 |
| 48 | 729 | 796 | 863 | 930 | 997 | *063 | *130 | 11 | 67 |
| 49 | 8.50 130 | 196 | 263 | 329 | 395 | 461 | 527 | 10 | 66 |
| 50 | 527 | 593 | 658 | 724 | 789 | 855 | 920 | 9 | 66 |
| 51 | 920 | 985 | *050 | *115 | *180 | *245 | *310 | 8 | 65 |
| 52 | 8.51 310 | 374 | 439 | 503 | 568 | 632 | 696 | 7 | 64 |
| 53 | 696 | 760 | 824 | 888 | 952 | *015 | *079 | 6 | 64 |
| 54 | 8.52 079 | 143 | 206 | 269 | 332 | 396 | 459 | 5 | 63 |
| 55 | 459 | 522 | 584 | 647 | 710 | 772 | 835 | 4 | 63 |
| 56 | 835 | 897 | 960 | *022 | *084 | *146 | *208 | 3 | 62 |
| 57 | 8.53 208 | 270 | 332 | 393 | 455 | 516 | 578 | 2 | 62 |
| 58 | 578 | 639 | 700 | 762 | 823 | 884 | 945 | 1 | 61 |
| 59 | 945 | *005 | *066 | *127 | *187 | *248 | *308 | 0 | 60 |
| | 60″ | 50″ | 40″ | 30″ | 20″ | 10″ | 0″ | ′ | d. |

PP.

| | 90 | 89 | 88 | 87 | 86 |
|---|---|---|---|---|---|
| 1 | 9.0 | 8.9 | 8.8 | 8.7 | 8.6 |
| 2 | 18.0 | 17.8 | 17.6 | 17.4 | 17.2 |
| 3 | 27.0 | 26.7 | 26.4 | 26.1 | 25.8 |
| 4 | 36.0 | 35.6 | 35.2 | 34.8 | 34.4 |
| 5 | 45.0 | 44.5 | 44.0 | 43.5 | 43.0 |
| 6 | 54.0 | 53.4 | 52.8 | 52.2 | 51.6 |
| 7 | 63.0 | 62.3 | 61.6 | 60.9 | 60.2 |
| 8 | 72.0 | 71.2 | 70.4 | 69.6 | 68.8 |
| 9 | 81.0 | 80.1 | 79.2 | 78.3 | 77.4 |

| | 85 | 84 | 83 | 82 | 81 |
|---|---|---|---|---|---|
| 1 | 8.5 | 8.4 | 8.3 | 8.2 | 8.1 |
| 2 | 17.0 | 16.8 | 16.6 | 16.4 | 16.2 |
| 3 | 25.5 | 25.2 | 24.9 | 24.6 | 24.3 |
| 4 | 34.0 | 33.6 | 33.2 | 32.8 | 32.4 |
| 5 | 42.5 | 42.0 | 41.5 | 41.0 | 40.5 |
| 6 | 51.0 | 50.4 | 49.8 | 49.2 | 48.6 |
| 7 | 59.5 | 58.8 | 58.1 | 57.4 | 56.7 |
| 8 | 68.0 | 67.2 | 66.4 | 65.6 | 64.8 |
| 9 | 76.5 | 75.6 | 74.7 | 73.8 | 72.9 |

| | 80 | 79 | 78 | 77 | 76 |
|---|---|---|---|---|---|
| 1 | 8.0 | 7.9 | 7.8 | 7.7 | 7.6 |
| 2 | 16.0 | 15.8 | 15.6 | 15.4 | 15.2 |
| 3 | 24.0 | 23.7 | 23.4 | 23.1 | 22.8 |
| 4 | 32.0 | 31.6 | 31.2 | 30.8 | 30.4 |
| 5 | 40.0 | 39.5 | 39.0 | 38.5 | 38.0 |
| 6 | 48.0 | 47.4 | 46.8 | 46.2 | 45.6 |
| 7 | 56.0 | 55.3 | 54.6 | 53.9 | 53.2 |
| 8 | 64.0 | 63.2 | 62.4 | 61.6 | 60.8 |
| 9 | 72.0 | 71.1 | 70.2 | 69.3 | 68.4 |

| | 75 | 74 | 73 | 72 | 71 |
|---|---|---|---|---|---|
| 1 | 7.5 | 7.4 | 7.3 | 7.2 | 7.1 |
| 2 | 15.0 | 14.8 | 14.6 | 14.4 | 14.2 |
| 3 | 22.5 | 22.2 | 21.9 | 21.6 | 21.3 |
| 4 | 30.0 | 29.6 | 29.2 | 28.8 | 28.4 |
| 5 | 37.5 | 37.0 | 36.5 | 36.0 | 35.5 |
| 6 | 45.0 | 44.4 | 43.8 | 43.2 | 42.6 |
| 7 | 52.5 | 51.8 | 51.1 | 50.4 | 49.7 |
| 8 | 60.0 | 59.2 | 58.4 | 57.6 | 56.8 |
| 9 | 67.5 | 66.6 | 65.7 | 64.8 | 63.9 |

| | 70 | 69 | 68 | 67 | 66 |
|---|---|---|---|---|---|
| 1 | 7.0 | 6.9 | 6.8 | 6.7 | 6.6 |
| 2 | 14.0 | 13.8 | 13.6 | 13.4 | 13.2 |
| 3 | 21.0 | 20.7 | 20.4 | 20.1 | 19.8 |
| 4 | 28.0 | 27.6 | 27.2 | 26.8 | 26.4 |
| 5 | 35.0 | 34.5 | 34.0 | 33.5 | 33.0 |
| 6 | 42.0 | 41.4 | 40.8 | 40.2 | 39.6 |
| 7 | 49.0 | 48.3 | 47.6 | 46.9 | 46.2 |
| 8 | 56.0 | 55.2 | 54.4 | 53.6 | 52.8 |
| 9 | 63.0 | 62.1 | 61.2 | 60.3 | 59.4 |

| | 65 | 64 | 63 | 62 | 61 |
|---|---|---|---|---|---|
| 1 | 6.5 | 6.4 | 6.3 | 6.2 | 6.1 |
| 2 | 13.0 | 12.8 | 12.6 | 12.4 | 12.2 |
| 3 | 19.5 | 19.2 | 18.9 | 18.6 | 18.3 |
| 4 | 26.0 | 25.6 | 25.2 | 24.8 | 24.4 |
| 5 | 32.5 | 32.0 | 31.5 | 31.0 | 30.5 |
| 6 | 39.0 | 38.4 | 37.8 | 37.2 | 36.6 |
| 7 | 45.5 | 44.8 | 44.1 | 43.4 | 42.7 |
| 8 | 52.0 | 51.2 | 50.4 | 49.6 | 48.8 |
| 9 | 58.5 | 57.6 | 56.7 | 55.8 | 54.9 |

PP

# L. Sine 2°

| ′ | 0″ | 10″ | 20″ | 30″ | 40″ | 50″ | 60″ | | d. |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 8.54 282 | 342 | 402 | 462 | 522 | 582 | 642 | 59 | 60 |
| 1 | 642 | 702 | 762 | 821 | 881 | 940 | 999 | 58 | 60 |
| 2 | 999 | *059 | *118 | *177 | *236 | *295 | *354 | 57 | 59 |
| 3 | 8.55 354 | 413 | 471 | 530 | 589 | 647 | 705 | 56 | 58 |
| 4 | 705 | 764 | 822 | 880 | 938 | 996 | *054 | 55 | 58 |
| 5 | 8.56 054 | 112 | 170 | 227 | 285 | 342 | 400 | 54 | 58 |
| 6 | 400 | 457 | 515 | 572 | 629 | 686 | 743 | 53 | 57 |
| 7 | 743 | 800 | 857 | 914 | 970 | *027 | *084 | 52 | 57 |
| 8 | 8.57 084 | 140 | 196 | 253 | 309 | 365 | 421 | 51 | 56 |
| 9 | 421 | 477 | 533 | 589 | 645 | 701 | 757 | 50 | 56 |
| 10 | 757 | 812 | 868 | 923 | 979 | *034 | *089 | 49 | 54 |
| 11 | 8.58 089 | 144 | 200 | 255 | 310 | 364 | 419 | 48 | 55 |
| 12 | 419 | 474 | 529 | 583 | 638 | 693 | 747 | 47 | 55 |
| 13 | 747 | 801 | 856 | 910 | 964 | *018 | *072 | 46 | 54 |
| 14 | 8.59 072 | 126 | 180 | 234 | 288 | 341 | 395 | 45 | 54 |
| 15 | 395 | 448 | 502 | 555 | 609 | 662 | 715 | 44 | 54 |
| 16 | 715 | 768 | 821 | 874 | 927 | 980 | *033 | 43 | 53 |
| 17 | 8.60 033 | 086 | 139 | 191 | 244 | 296 | 349 | 42 | 53 |
| 18 | 349 | 401 | 454 | 506 | 558 | 610 | 662 | 41 | 52 |
| 19 | 662 | 714 | 766 | 818 | 870 | 922 | 973 | 40 | 52 |
| 20 | 973 | *025 | *077 | *128 | *180 | *231 | *282 | 39 | 52 |
| 21 | 8.61 282 | 334 | 385 | 436 | 487 | 538 | 589 | 38 | 51 |
| 22 | 589 | 640 | 691 | 742 | 792 | 843 | 894 | 37 | 51 |
| 23 | 894 | 944 | 995 | *045 | *096 | *146 | *196 | 36 | 50 |
| 24 | 8.62 196 | 246 | 297 | 347 | 397 | 447 | 497 | 35 | 50 |
| 25 | 497 | 546 | 596 | 646 | 696 | 745 | 795 | 34 | 50 |
| 26 | 795 | 844 | 894 | 943 | 993 | *042 | *091 | 33 | 50 |
| 27 | 8.63 091 | 140 | 189 | 238 | 288 | 336 | 385 | 32 | 49 |
| 28 | 385 | 434 | 483 | 532 | 580 | 629 | 678 | 31 | 49 |
| 29 | 678 | 726 | 775 | 823 | 871 | 920 | 968 | 30 | 48 |
| 30 | 968 | *016 | *064 | *112 | *160 | *208 | *256 | 29 | 48 |
| 31 | 8.64 256 | 304 | 352 | 400 | 448 | 495 | 543 | 28 | 48 |
| 32 | 543 | 590 | 638 | 685 | 733 | 780 | 827 | 27 | 48 |
| 33 | 827 | 875 | 922 | 969 | *016 | *063 | *110 | 26 | 47 |
| 34 | 8.65 110 | 157 | 204 | 251 | 298 | 344 | 391 | 25 | 47 |
| 35 | 391 | 438 | 484 | 531 | 577 | 624 | 670 | 24 | 47 |
| 36 | 670 | 717 | 763 | 809 | 855 | 901 | 947 | 23 | 46 |
| 37 | 947 | 994 | *040 | *085 | *131 | *177 | *223 | 22 | 46 |
| 38 | 8.66 223 | 269 | 314 | 360 | 406 | 451 | 497 | 21 | 46 |
| 39 | 497 | 542 | 588 | 633 | 678 | 724 | 769 | 20 | 46 |
| 40 | 769 | 814 | 859 | 904 | 949 | 994 | *039 | 19 | 45 |
| 41 | 8.67 039 | 084 | 129 | 174 | 219 | 263 | 308 | 18 | 45 |
| 42 | 308 | 353 | 397 | 442 | 486 | 531 | 575 | 17 | 45 |
| 43 | 575 | 619 | 664 | 708 | 752 | 796 | 841 | 16 | 44 |
| 44 | 841 | 885 | 929 | 973 | *017 | *060 | *104 | 15 | 44 |
| 45 | 8.68 104 | 148 | 192 | 236 | 279 | 323 | 367 | 14 | 44 |
| 46 | 367 | 410 | 454 | 497 | 540 | 584 | 627 | 13 | 44 |
| 47 | 627 | 670 | 714 | 757 | 800 | 843 | 886 | 12 | 43 |
| 48 | 886 | 929 | 972 | *015 | *058 | *101 | *144 | 11 | 43 |
| 49 | 8.69 144 | 187 | 229 | 272 | 315 | 357 | 400 | 10 | 43 |
| 50 | 400 | 442 | 485 | 527 | 570 | 612 | 654 | 9 | 42 |
| 51 | 654 | 697 | 739 | 781 | 823 | 865 | 907 | 8 | 42 |
| 52 | 907 | 949 | 991 | *033 | *075 | *117 | *159 | 7 | 42 |
| 53 | 8.70 159 | 201 | 242 | 284 | 326 | 367 | 409 | 6 | 42 |
| 54 | 409 | 451 | 492 | 534 | 575 | 616 | 658 | 5 | 42 |
| 55 | 658 | 699 | 740 | 781 | 823 | 864 | 905 | 4 | 41 |
| 56 | 905 | 946 | 987 | *028 | *069 | *110 | *151 | 3 | 41 |
| 57 | 8.71 151 | 192 | 232 | 273 | 314 | 355 | 395 | 2 | 41 |
| 58 | 395 | 436 | 476 | 517 | 557 | 598 | 638 | 1 | 41 |
| 59 | 638 | 679 | 719 | 759 | 800 | 840 | 880 | 0 | 40 |
| | 60″ | 50″ | 40″ | 30″ | 20″ | 10″ | 0″ | ′ | d. |

PP.

| | 61 | 60 | 59 | 58 |
|---|---|---|---|---|
| 1 | 6.1 | 6.0 | 5.9 | 5.8 |
| 2 | 12.2 | 12.0 | 11.8 | 11.6 |
| 3 | 18.3 | 18.0 | 17.7 | 17.4 |
| 4 | 24.4 | 24.0 | 23.6 | 23.2 |
| 5 | 30.5 | 30.0 | 29.5 | 29.0 |
| 6 | 36.6 | 36.0 | 35.4 | 34.8 |
| 7 | 42.7 | 42.0 | 41.3 | 40.6 |
| 8 | 48.8 | 48.0 | 47.2 | 46.4 |
| 9 | 54.9 | 54.0 | 53.1 | 52.2 |

| | 57 | 56 | 55 | 54 |
|---|---|---|---|---|
| 1 | 5.7 | 5.6 | 5.5 | 5.4 |
| 2 | 11.4 | 11.2 | 11.0 | 10.8 |
| 3 | 17.1 | 16.8 | 16.5 | 16.2 |
| 4 | 22.8 | 22.4 | 22.0 | 21.6 |
| 5 | 28.5 | 28.0 | 27.5 | 27.0 |
| 6 | 34.2 | 33.6 | 33.0 | 32.4 |
| 7 | 39.9 | 39.2 | 38.5 | 37.8 |
| 8 | 45.6 | 44.8 | 44.0 | 43.2 |
| 9 | 51.3 | 50.4 | 49.5 | 48.6 |

| | 53 | 52 | 51 | 50 |
|---|---|---|---|---|
| 1 | 5.3 | 5.2 | 5.1 | 5.0 |
| 2 | 10.6 | 10.4 | 10.2 | 10.0 |
| 3 | 15.9 | 15.6 | 15.3 | 15.0 |
| 4 | 21.2 | 20.8 | 20.4 | 20.0 |
| 5 | 26.5 | 26.0 | 25.5 | 25.0 |
| 6 | 31.8 | 31.2 | 30.6 | 30.0 |
| 7 | 37.1 | 36.4 | 35.7 | 35.0 |
| 8 | 42.4 | 41.6 | 40.8 | 40.0 |
| 9 | 47.7 | 46.8 | 45.9 | 45.0 |

| | 49 | 48 | 47 | 46 |
|---|---|---|---|---|
| 1 | 4.9 | 4.8 | 4.7 | 4.6 |
| 2 | 9.8 | 9.6 | 9.4 | 9.2 |
| 3 | 14.7 | 14.4 | 14.1 | 13.8 |
| 4 | 19.6 | 19.2 | 18.8 | 18.4 |
| 5 | 24.5 | 24.0 | 23.5 | 23.0 |
| 6 | 29.4 | 28.8 | 28.2 | 27.6 |
| 7 | 34.3 | 33.6 | 32.9 | 32.2 |
| 8 | 39.2 | 38.4 | 37.6 | 36.8 |
| 9 | 44.1 | 43.2 | 42.3 | 41.4 |

| | 45 | 44 | 43 | 42 |
|---|---|---|---|---|
| 1 | 4.5 | 4.4 | 4.3 | 4.2 |
| 2 | 9.0 | 8.8 | 8.6 | 8.4 |
| 3 | 13.5 | 13.2 | 12.9 | 12.6 |
| 4 | 18.0 | 17.6 | 17.2 | 16.8 |
| 5 | 22.5 | 22.0 | 21.5 | 21.0 |
| 6 | 27.0 | 26.4 | 25.8 | 25.2 |
| 7 | 31.5 | 30.8 | 30.1 | 29.4 |
| 8 | 36.0 | 35.2 | 34.4 | 33.6 |
| 9 | 40.5 | 39.6 | 38.7 | 37.8 |

| | 41 | 40 |
|---|---|---|
| 1 | 4.1 | 4.0 |
| 2 | 8.2 | 8.0 |
| 3 | 12.3 | 12.0 |
| 4 | 16.4 | 16.0 |
| 5 | 20.5 | 20.0 |
| 6 | 24.6 | 24.0 |
| 7 | 28.7 | 28.0 |
| 8 | 32.8 | 32.0 |
| 9 | 36.9 | 36.0 |

PP.

# L. Cos. 87°

# L. Tang. 2°

| ′ | 0″ | 10″ | 20″ | 30″ | 40″ | 50″ | 60″ | ′ | d. |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 8.54 308 | 369 | 429 | 489 | 549 | 609 | 669 | 59 | 60 |
| 1 | 669 | 729 | 789 | 848 | 908 | 967 | *027 | 58 | 60 |
| 2 | 8.55 027 | 086 | 145 | 205 | 264 | 323 | 382 | 57 | 59 |
| 3 | 382 | 441 | 499 | 558 | 617 | 675 | 734 | 56 | 59 |
| 4 | 734 | 792 | 850 | 909 | 967 | *025 | *083 | 55 | 58 |
| 5 | 8.56 083 | 141 | 199 | 256 | 314 | 372 | 429 | 54 | 58 |
| 6 | 429 | 487 | 544 | 601 | 659 | 716 | 773 | 53 | 57 |
| 7 | 773 | 830 | 887 | 944 | *000 | *057 | *114 | 52 | 57 |
| 8 | 8.57 114 | 170 | 227 | 283 | 340 | 396 | 452 | 51 | 56 |
| 9 | 452 | 508 | 564 | 620 | 676 | 732 | 788 | 50 | 56 |
| 10 | 788 | 843 | 899 | 955 | *010 | *065 | *121 | 49 | 56 |
| 11 | 8.58 121 | 176 | 231 | 286 | 341 | 396 | 451 | 48 | 55 |
| 12 | 451 | 506 | 561 | 616 | 670 | 725 | 779 | 47 | 55 |
| 13 | 779 | 834 | 888 | 943 | 997 | *051 | *105 | 46 | 54 |
| 14 | 8.59 105 | 159 | 213 | 267 | 321 | 375 | 428 | 45 | 54 |
| 15 | 428 | 482 | 536 | 589 | 642 | 696 | 749 | 44 | 54 |
| 16 | 749 | 802 | 856 | 909 | 962 | *015 | *068 | 43 | 53 |
| 17 | 8.60 068 | 121 | 173 | 226 | 279 | 331 | 384 | 42 | 53 |
| 18 | 384 | 436 | 489 | 541 | 593 | 646 | 698 | 41 | 52 |
| 19 | 698 | 750 | 802 | 854 | 906 | 958 | *009 | 40 | 52 |
| 20 | 8.61 009 | 061 | 113 | 164 | 216 | 267 | 319 | 39 | 52 |
| 21 | 319 | 370 | 422 | 473 | 524 | 575 | 626 | 38 | 51 |
| 22 | 626 | 677 | 728 | 779 | 830 | 881 | 931 | 37 | 51 |
| 23 | 931 | 982 | *033 | *083 | *134 | *184 | *234 | 36 | 50 |
| 24 | 8.62 234 | 285 | 335 | 385 | 435 | 485 | 535 | 35 | 50 |
| 25 | 535 | 585 | 635 | 685 | 735 | 784 | 834 | 34 | 50 |
| 26 | 834 | 884 | 933 | 983 | *032 | *081 | *131 | 33 | 50 |
| 27 | 8.63 131 | 180 | 229 | 278 | 328 | 377 | 426 | 32 | 49 |
| 28 | 426 | 475 | 523 | 572 | 621 | 670 | 718 | 31 | 49 |
| 29 | 718 | 767 | 816 | 864 | 913 | 961 | *009 | 30 | 48 |
| 30 | 8.64 009 | 058 | 106 | 154 | 202 | 250 | 298 | 29 | 48 |
| 31 | 298 | 346 | 394 | 442 | 490 | 538 | 585 | 28 | 48 |
| 32 | 585 | 633 | 681 | 728 | 776 | 823 | 870 | 27 | 48 |
| 33 | 870 | 918 | 965 | *012 | *060 | *107 | *154 | 26 | 47 |
| 34 | 8.65 154 | 201 | 248 | 295 | 342 | 388 | 435 | 25 | 47 |
| 35 | 435 | 482 | 529 | 575 | 622 | 668 | 715 | 24 | 47 |
| 36 | 715 | 761 | 808 | 854 | 900 | 947 | 993 | 23 | 46 |
| 37 | 993 | *039 | *085 | *131 | *177 | *223 | *269 | 22 | 46 |
| 38 | 8.66 269 | 315 | 361 | 406 | 452 | 498 | 543 | 21 | 46 |
| 39 | 543 | 589 | 634 | 680 | 725 | 771 | 816 | 20 | 46 |
| 40 | 816 | 861 | 906 | 952 | 997 | *042 | *087 | 19 | 45 |
| 41 | 8.67 087 | 132 | 177 | 222 | 267 | 312 | 356 | 18 | 45 |
| 42 | 356 | 401 | 446 | 490 | 535 | 579 | 624 | 17 | 45 |
| 43 | 624 | 668 | 713 | 757 | 801 | 846 | 890 | 16 | 44 |
| 44 | 890 | 934 | 978 | *022 | *066 | *110 | *154 | 15 | 44 |
| 45 | 8.68 154 | 198 | 242 | 286 | 330 | 373 | 417 | 14 | 44 |
| 46 | 417 | 461 | 504 | 548 | 592 | 635 | 678 | 13 | 44 |
| 47 | 678 | 722 | 765 | 808 | 852 | 895 | 938 | 12 | 43 |
| 48 | 938 | 981 | *024 | *067 | *110 | *153 | *196 | 11 | 43 |
| 49 | 8.69 196 | 239 | 282 | 325 | 368 | 410 | 453 | 10 | 43 |
| 50 | 453 | 496 | 538 | 581 | 623 | 666 | 708 | 9 | 42 |
| 51 | 708 | 750 | 793 | 835 | 877 | 920 | 962 | 8 | 42 |
| 52 | 962 | *004 | *046 | *088 | *130 | *172 | *214 | 7 | 42 |
| 53 | 8.70 214 | 256 | 298 | 339 | 381 | 423 | 465 | 6 | 42 |
| 54 | 465 | 506 | 548 | 589 | 631 | 673 | 714 | 5 | 42 |
| 55 | 714 | 755 | 797 | 838 | 879 | 921 | 962 | 4 | 41 |
| 56 | 962 | *003 | *044 | *085 | *126 | *167 | *208 | 3 | 41 |
| 57 | 8.71 208 | 249 | 290 | 331 | 372 | 413 | 453 | 2 | 41 |
| 58 | 453 | 494 | 535 | 575 | 616 | 657 | 697 | 1 | 41 |
| 59 | 697 | 738 | 778 | 819 | 859 | 899 | 940 | 0 | 40 |
| | 60″ | 50″ | 40″ | 30″ | 20″ | 10″ | 0″ | ′ | d. |

PP.

| | 61 | 60 | 59 | 58 |
|---|---|---|---|---|
| 1 | 6.1 | 6.0 | 5.9 | 5.8 |
| 2 | 12.2 | 12.0 | 11.8 | 11.6 |
| 3 | 18.3 | 18.0 | 17.7 | 17.4 |
| 4 | 24.4 | 24.0 | 23.6 | 23.2 |
| 5 | 30.5 | 30.0 | 29.5 | 29.0 |
| 6 | 36.6 | 36.0 | 35.4 | 34.8 |
| 7 | 42.7 | 42.0 | 41.3 | 40.6 |
| 8 | 48.8 | 48.0 | 47.2 | 46.4 |
| 9 | 54.9 | 54.0 | 53.1 | 52.2 |

| | 57 | 56 | 55 | 54 |
|---|---|---|---|---|
| 1 | 5.7 | 5.6 | 5.5 | 5.4 |
| 2 | 11.4 | 11.2 | 11.0 | 10.8 |
| 3 | 17.1 | 16.8 | 16.5 | 16.2 |
| 4 | 22.8 | 22.4 | 22.0 | 21.6 |
| 5 | 28.5 | 28.0 | 27.5 | 27.0 |
| 6 | 34.2 | 33.6 | 33.0 | 32.4 |
| 7 | 39.9 | 39.2 | 38.5 | 37.8 |
| 8 | 45.6 | 44.8 | 44.0 | 43.2 |
| 9 | 51.3 | 50.4 | 49.5 | 48.6 |

| | 53 | 52 | 51 | 50 |
|---|---|---|---|---|
| 1 | 5.3 | 5.2 | 5.1 | 5.0 |
| 2 | 10.6 | 10.4 | 10.2 | 10.0 |
| 3 | 15.9 | 15.6 | 15.3 | 15.0 |
| 4 | 21.2 | 20.8 | 20.4 | 20.0 |
| 5 | 26.5 | 26.0 | 25.5 | 25.0 |
| 6 | 31.8 | 31.2 | 30.6 | 30.0 |
| 7 | 37.1 | 36.4 | 35.7 | 35.0 |
| 8 | 42.4 | 41.6 | 40.8 | 40.0 |
| 9 | 47.7 | 46.8 | 45.9 | 45.0 |

| | 49 | 48 | 47 | 46 |
|---|---|---|---|---|
| 1 | 4.9 | 4.8 | 4.7 | 4.6 |
| 2 | 9.8 | 9.6 | 9.4 | 9.2 |
| 3 | 14.7 | 14.4 | 14.1 | 13.8 |
| 4 | 19.6 | 19.2 | 18.8 | 18.4 |
| 5 | 24.5 | 24.0 | 23.5 | 23.0 |
| 6 | 29.4 | 28.8 | 28.2 | 27.6 |
| 7 | 34.3 | 33.6 | 32.9 | 32.2 |
| 8 | 39.2 | 38.4 | 37.6 | 36.8 |
| 9 | 44.1 | 43.2 | 42.3 | 41.4 |

| | 45 | 44 | 43 | 42 |
|---|---|---|---|---|
| 1 | 4.5 | 4.4 | 4.3 | 4.2 |
| 2 | 9.0 | 8.8 | 8.6 | 8.4 |
| 3 | 13.5 | 13.2 | 12.9 | 12.6 |
| 4 | 18.0 | 17.6 | 17.2 | 16.8 |
| 5 | 22.5 | 22.0 | 21.5 | 21.0 |
| 6 | 27.0 | 26.4 | 25.8 | 25.2 |
| 7 | 31.5 | 30.8 | 30.1 | 29.4 |
| 8 | 36.0 | 35.2 | 34.4 | 33.6 |
| 9 | 40.5 | 39.6 | 38.7 | 37.8 |

| | 41 | 40 |
|---|---|---|
| 1 | 4.1 | 4.0 |
| 2 | 8.2 | 8.0 |
| 3 | 12.3 | 12.0 |
| 4 | 16.4 | 16.0 |
| 5 | 20.5 | 20.0 |
| 6 | 24.6 | 24.0 |
| 7 | 28.7 | 28.0 |
| 8 | 32.8 | 32.0 |
| 9 | 36.9 | 36.0 |

PP.

# L. Cotg. 87°

# LOGARITHMIC FUNCTIONS OF ANGLES BETWEEN 0° AND 1° AND 89° AND 90°

In the preceding table, in which the logarithms of the sine and tangent of angles between 0° and 3° and those of the cosine and cotangent between 87° and 90° are tabulated by intervals of 10 seconds, proportional parts for single seconds are given only for angles between 1° and 3° and 87° and 89°. For calculations closer than to 10 seconds with angles between 0° and 1° and 89° and 90°, the first three columns on pages 30 and 31 are provided. The first of these columns headed Sec. gives the reductions from minutes to seconds of the values in the fourth column headed Min. The next two columns headed S and T contain the values in the formulas,

$\log \sin X = \log X_s + S$ (1) $\quad \log X_s = \log \sin X - S$ (1$a$)

$\log \tan X = \log X_s + T$ (2) $\quad \log X_s = \log \tan X - T$ (2$a$)

In these formulas, $X$ is the angle under consideration and $X_s$ is the same angle reduced to seconds.

The following examples will serve to illustrate the application of these formulas:

EXAMPLE I.—Find log sin 37′ 43.6″.

SOLUTION.—To apply formula 1, substitute for $X_s$ the number of seconds contained in 37′ 43.6″ and for $S$ the nearest value in the table corresponding to $X$. The reduction to seconds may be effected by multiplying 37″ by 60 and adding to the product 43.6″. However, the product of 37″×60 may be taken directly from the reduction table, in which, opposite the number 37, it is given as 2220. Therefore, $X_s = 2220 + 43.6 = 2263.6$. Then, from the Table of Logarithms of Common Numbers, log 2263.6 is taken out as 3.35480. The nearest angle for which the value of $S$ is given in the table is 38′, opposite which number the value of $S$ is found as 4.68557. Therefore, log $X = 3.35480 + 4.68557 = 8.04037$.

EXAMPLE II.—Find the angle $X$ when it is known that the log tan $X = 7.90551$.

SOLUTION.—In this case, formula 2$a$ must be employed to determine the number of seconds contained in the required angle. This formula contains $T$, the value of which depends on the angle $X$, which is as yet unknown. However, as the value of $T$ changes inappreciably with small variations of $X$, it will be sufficient for this purpose to determine $X$ approximately. This can be done by means of the table of logarithmic tangents. Referring to this table, it will be seen that the value of $X$ (since log tan $X = 7.90551$) is between 27′ and 28′, for both of which values $T = 4.68558$. Substituting known values in formula 2$a$, it will be found that log $X_s = 7.90551 - 4.68558 = 3.21993 = \log 1659.3$. Hence, $X = 1659.3'' = 27' 39.3''$.

Since cos $X$=sin (90°—$X$) and cot $X$=tan (90°—$X$), calculations involving the logarithmic cosine and cotangent of angles between 89° and 90° may be effected by computing the logarithmic sine and tangent of the compliments of these angles by the method just explained.

# TABLE

OF

# LOGARITHMS

OF THE

# Sine, Cosine, Tangent and Cotangent

FOR

## Each Minute of the Quadrant

WITH

## Tables of Proportional Parts for Seconds

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Note.—For angles between 45° and 90° read from right-hand page to left-hand page and from bottom of page upward, the latter being indicated by an arrow on the top of the last column of each page.

# 0°

| Sec. | S | T | Min. | Sine | d | Tang. | d | Cotang. | Cosine | ↑ |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4.68557 | 4.68557 | 0 | $-\infty$ | | $-\infty$ | | $+\infty$ | 0.00000 | 60 |
| 60 | 4.68557 | 4.68557 | 1 | 6.46373 | 30103 | 6.46373 | 30103 | 3.53627 | 0.00000 | 59 |
| 120 | 4.68557 | 4.68557 | 2 | 6.76476 | 17609 | 6.76476 | 17609 | 3.23524 | 0.00000 | 58 |
| 180 | 4.68557 | 4.68557 | 3 | 6.94085 | 12494 | 6.94085 | 12494 | 3.05915 | 0.00000 | 57 |
| 240 | 4.68557 | 4.68558 | 4 | 7.06579 | 9691 | 7.06579 | 9691 | 2.93421 | 0.00000 | 56 |
| 300 | 4.68557 | 4.68558 | 5 | 7.16270 | 7918 | 7.16270 | 7918 | 2.83730 | 0.00000 | 55 |
| 360 | 4.68557 | 4.68558 | 6 | 7.24188 | 6694 | 7.24188 | 6694 | 2.75812 | 0.00000 | 54 |
| 420 | 4.68557 | 4.68558 | 7 | 7.30882 | 5800 | 7.30882 | 5800 | 2.69118 | 0.00000 | 53 |
| 480 | 4.68557 | 4.68558 | 8 | 7.36682 | 5115 | 7.36682 | 5115 | 2.63318 | 0.00000 | 52 |
| 540 | 4.68557 | 4.68558 | 9 | 7.41797 | 4576 | 7.41797 | 4576 | 2.58203 | 0.00000 | 51 |
| 600 | 4.68557 | 4.68558 | 10 | 7.46373 | 4139 | 7.46373 | 4139 | 2.53627 | 0.00000 | 50 |
| 660 | 4.68557 | 4.68558 | 11 | 7.50512 | 3779 | 7.50512 | 3779 | 2.49488 | 0.00000 | 49 |
| 720 | 4.68557 | 4.68558 | 12 | 7.54291 | 3476 | 7.54291 | 3476 | 2.45709 | 0.00000 | 48 |
| 780 | 4.68557 | 4.68558 | 13 | 7.57767 | 3218 | 7.57767 | 3219 | 2.42233 | 0.00000 | 47 |
| 840 | 4.68557 | 4.68558 | 14 | 7.60985 | 2997 | 7.60986 | 2996 | 2.39014 | 0.00000 | 46 |
| 900 | 4.68557 | 4.68558 | 15 | 7.63982 | 2802 | 7.63982 | 2803 | 2.36018 | 0.00000 | 45 |
| 960 | 4.68557 | 4.68558 | 16 | 7.66784 | 2633 | 7.66785 | 2633 | 2.33215 | 0.00000 | 44 |
| 1020 | 4.68557 | 4.68558 | 17 | 7.69417 | 2483 | 7.69418 | 2482 | 2.30582 | 9.99999 | 43 |
| 1080 | 4.68557 | 4.68558 | 18 | 7.71900 | 2348 | 7.71900 | 2348 | 2.28100 | 9.99999 | 42 |
| 1140 | 4.68557 | 4.68558 | 19 | 7.74248 | 2227 | 7.74248 | 2228 | 2.25752 | 9.99999 | 41 |
| 1200 | 4.68557 | 4.68558 | 20 | 7.76475 | 2119 | 7.76476 | 2119 | 2.23524 | 9.99999 | 40 |
| 1260 | 4.68557 | 4.68558 | 21 | 7.78594 | 2021 | 7.78595 | 2020 | 2.21405 | 9.99999 | 39 |
| 1320 | 4.68557 | 4.68558 | 22 | 7.80615 | 1930 | 7.80615 | 1931 | 2.19385 | 9.99999 | 38 |
| 1380 | 4.68557 | 4.68558 | 23 | 7.82545 | 1848 | 7.82546 | 1848 | 2.17454 | 9.99999 | 37 |
| 1440 | 4.68557 | 4.68558 | 24 | 7.84393 | 1773 | 7.84394 | 1773 | 2.15606 | 9.99999 | 36 |
| 1500 | 4.68557 | 4.68558 | 25 | 7.86166 | 1704 | 7.86167 | 1704 | 2.13833 | 9.99999 | 35 |
| 1560 | 4.68557 | 4.68558 | 26 | 7.87870 | 1639 | 7.87871 | 1639 | 2.12129 | 9.99999 | 34 |
| 1620 | 4.68557 | 4.68558 | 27 | 7.89509 | 1579 | 7.89510 | 1579 | 2.10490 | 9.99999 | 33 |
| 1680 | 4.68557 | 4.68558 | 28 | 7.91088 | 1524 | 7.91089 | 1524 | 2.08911 | 9.99999 | 32 |
| 1740 | 4.68557 | 4.68559 | 29 | 7.92612 | 1472 | 7.92613 | 1473 | 2.07387 | 9.99998 | 31 |
| 1800 | 4.68557 | 4.68559 | 30 | 7.94084 | | 7.94086 | | 2.05914 | 9.99998 | 30 |
| Sec. | S | T | | Cosine | d | Cotang. | d | Tang. | Sine | Min. |

# 89°

| Sec. | S | T | Min. | Sine | d | Tang. | d | Cotang. | Cosine | ↑ |
|---|---|---|---|---|---|---|---|---|---|---|
| 1800 | 4.68557 | 4.68559 | 30 | 7.94084 | | 7.94086 | | 2.05914 | 9.99998 | 30 |
| | | | | | 1424 | | 1424 | | | |
| 1860 | 4.68557 | 4.68559 | 31 | 7.95508 | | 7.95510 | | 2.04490 | 9.99998 | 29 |
| | | | | | 1379 | | 1379 | | | |
| 1920 | 4.68557 | 4.68559 | 32 | 7.96887 | | 7.96889 | | 2.03111 | 9.99998 | 28 |
| | | | | | 1336 | | 1336 | | | |
| 1980 | 4.68557 | 4.68559 | 33 | 7.98223 | | 7.98225 | | 2.01775 | 9.99998 | 27 |
| | | | | | 1297 | | 1297 | | | |
| 2040 | 4.68557 | 4.68559 | 34 | 7.99520 | | 7.99522 | | 2.00478 | 9.99998 | 26 |
| | | | | | 1259 | | 1259 | | | |
| 2100 | 4.68557 | 4.68559 | 35 | 8.00779 | | 8.00781 | | 1.99219 | 9.99998 | 25 |
| | | | | | 1223 | | 1223 | | | |
| 2160 | 4.68557 | 4.68559 | 36 | 8.02002 | | 8.02004 | | 1.97996 | 9.99998 | 24 |
| | | | | | 1190 | | 1190 | | | |
| 2220 | 4.68557 | 4.68559 | 37 | 8.03192 | | 8.03194 | | 1.96806 | 9.99997 | 23 |
| | | | | | 1158 | | 1159 | | | |
| 2280 | 4.68557 | 4.68559 | 38 | 8.04350 | | 8.04353 | | 1.95647 | 9.99997 | 22 |
| | | | | | 1128 | | 1128 | | | |
| 2340 | 4.68557 | 4.68559 | 39 | 8.05478 | | 8.05481 | | 1.94519 | 9.99997 | 21 |
| | | | | | 1100 | | 1100 | | | |
| 2400 | 4.68557 | 4.68559 | 40 | 8.06578 | | 8.06581 | | 1.93419 | 9.99997 | 20 |
| | | | | | 1072 | | 1072 | | | |
| 2460 | 4.68556 | 4.68560 | 41 | 8.07650 | | 8.07653 | | 1.92347 | 9.99997 | 19 |
| | | | | | 1046 | | 1047 | | | |
| 2520 | 4.68556 | 4.68560 | 42 | 8.08696 | | 8.08700 | | 1.91300 | 9.99997 | 18 |
| | | | | | 1022 | | 1022 | | | |
| 2580 | 4.68556 | 4.68560 | 43 | 8.09718 | | 8.09722 | | 1.90278 | 9.99997 | 17 |
| | | | | | 999 | | 998 | | | |
| 2640 | 4.68556 | 4.68560 | 44 | 8.10717 | | 8.10720 | | 1.89280 | 9.99996 | 16 |
| | | | | | 976 | | 976 | | | |
| 2700 | 4.68556 | 4.68560 | 45 | 8.11693 | | 8.11696 | | 1.88304 | 9.99996 | 15 |
| | | | | | 954 | | 955 | | | |
| 2760 | 4.68556 | 4.68560 | 46 | 8.12647 | | 8.12651 | | 1.87349 | 9.99996 | 14 |
| | | | | | 934 | | 934 | | | |
| 2820 | 4.68556 | 4.68560 | 47 | 8.13581 | | 8.13585 | | 1.86415 | 9.99996 | 13 |
| | | | | | 914 | | 915 | | | |
| 2880 | 4.68556 | 4.68560 | 48 | 8.14495 | | 8.14500 | | 1.85500 | 9.99996 | 12 |
| | | | | | 896 | | 895 | | | |
| 2940 | 4.68556 | 4.68560 | 49 | 8.15391 | | 8.15395 | | 1.84605 | 9.99996 | 11 |
| | | | | | 877 | | 878 | | | |
| 3000 | 4.68556 | 4.68561 | 50 | 8.16268 | | 8.16273 | | 1.83727 | 9.99995 | 10 |
| | | | | | 860 | | 860 | | | |
| 3060 | 4.68556 | 4.68561 | 51 | 8.17128 | | 8.17133 | | 1.82867 | 9.99995 | 9 |
| | | | | | 843 | | 843 | | | |
| 3120 | 4.68556 | 4.68561 | 52 | 8.17971 | | 8.17976 | | 1.82024 | 9.99995 | 8 |
| | | | | | 827 | | 828 | | | |
| 3180 | 4.68556 | 4.68561 | 53 | 8.18798 | | 8.18804 | | 1.81196 | 9.99995 | 7 |
| | | | | | 812 | | 812 | | | |
| 3240 | 4.68556 | 4.68561 | 54 | 8.19610 | | 8.19616 | | 1.80384 | 9.99995 | 6 |
| | | | | | 797 | | 797 | | | |
| 3300 | 4.68556 | 4.68561 | 55 | 8.20407 | | 8.20413 | | 1.79587 | 9.99994 | 5 |
| | | | | | 782 | | 782 | | | |
| 3360 | 4.68556 | 4.68561 | 56 | 8.21189 | | 8.21195 | | 1.78805 | 9.99994 | 4 |
| | | | | | 769 | | 769 | | | |
| 3420 | 4.68555 | 4.68561 | 57 | 8.21958 | | 8.21964 | | 1.78036 | 9.99994 | 3 |
| | | | | | 755 | | 756 | | | |
| 3480 | 4.68555 | 4.68562 | 58 | 8.22713 | | 8.22720 | | 1.77280 | 9.99994 | 2 |
| | | | | | 743 | | 742 | | | |
| 3540 | 4.68555 | 4.68562 | 59 | 8.23456 | | 8.23462 | | 1.76538 | 9.99994 | 1 |
| | | | | | 730 | | 730 | | | |
| 3600 | 4.68555 | 4.68562 | 60 | 8.24186 | | 8.24192 | | 1.75808 | 9.99993 | 0 |
| Sec. | S | T | | Cosine | d | Cotang. | d | Tang. | Sine | Min. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **0** | **8.24186** | 717 | **8.24192** | 718 | **1.75808** | **9.99993** | 0 | **60** |
| 1 | 8.24903 | 706 | 8.24910 | 706 | 1.75090 | 9.99993 | 0 | 59 |
| 2 | 8.25609 | 695 | 8.25616 | 696 | 1.74384 | 9.99993 | 0 | 58 |
| 3 | 8.26304 | 684 | 8.26312 | 684 | 1.73688 | 9.99993 | 1 | 57 |
| 4 | 8.26988 | 673 | 8.26996 | 673 | 1.73004 | 9.99992 | 0 | 56 |
| **5** | **8.27661** | 663 | **8.27669** | 663 | **1.72331** | **9.99992** | 0 | **55** |
| 6 | 8.28324 | 653 | 8.28332 | 654 | 1.71668 | 9.99992 | 0 | **54** |
| 7 | 8.28977 | 644 | 8.28986 | 643 | 1.71014 | 9.99992 | 0 | 53 |
| 8 | 8.29621 | 634 | 8.29629 | 634 | 1.70371 | 9.99992 | 1 | 52 |
| 9 | 8.30255 | 624 | 8.30263 | 625 | 1.69737 | 9.99991 | 0 | 51 |
| **10** | **8.30879** | 616 | **8.30888** | 617 | **1.69112** | **9.99991** | 0 | **50** |
| 11 | 8.31495 | 608 | 8.31505 | 607 | 1.68495 | 9.99991 | 1 | 49 |
| 12 | 8.32103 | 599 | 8.32112 | 599 | 1.67888 | 9.99990 | 0 | 48 |
| 13 | 8.32702 | 590 | 8.32711 | 591 | 1.67289 | 9.99990 | 0 | 47 |
| 14 | 8.33292 | 583 | 8.33302 | 584 | 1.66698 | 9.99990 | 0 | 46 |
| **15** | **8.33875** | 575 | **8.33886** | 575 | **1.66114** | **9.99990** | 1 | **45** |
| 16 | 8.34450 | 568 | 8.34461 | 568 | 1.65539 | 9.99989 | 0 | 44 |
| 17 | 8.35018 | 560 | 8.35029 | 561 | 1.64971 | 9.99989 | 0 | 43 |
| 18 | 8.35578 | 553 | 8.35590 | 553 | 1.64410 | 9.99989 | 0 | 42 |
| 19 | 8.36131 | 547 | 8.36143 | 546 | 1.63857 | 9.99989 | 1 | 41 |
| **20** | **8.36678** | 539 | **8.36689** | 540 | **1.63311** | **9.99988** | 0 | **40** |
| 21 | 8.37217 | 533 | 8.37229 | 533 | 1.62771 | 9.99988 | 0 | 39 |
| 22 | 8.37750 | 526 | 8.37762 | 527 | 1.62238 | 9.99988 | 1 | 38 |
| 23 | 8.38276 | 520 | 8.38289 | 520 | 1.61711 | 9.99987 | 0 | 37 |
| 24 | 8.38796 | 514 | 8.38809 | 514 | 1.61191 | 9.99987 | 0 | 36 |
| **25** | **8.39310** | 508 | **8.39323** | 509 | **1.60677** | **9.99987** | 1 | **35** |
| 26 | 8.39818 | 502 | 8.39832 | 502 | 1.60168 | 9.99986 | 0 | 34 |
| 27 | 8.40320 | 496 | 8.40334 | 496 | 1.59666 | 9.99986 | 0 | 33 |
| 28 | 8.40816 | 491 | 8.40830 | 491 | 1.59170 | 9.99986 | 1 | 32 |
| 29 | 8.41307 | 485 | 8.41321 | 486 | 1.58679 | 9.99985 | 0 | 31 |
| **30** | **8.41792** | 480 | **8.41807** | 480 | **1.58193** | **9.99985** | 0 | **30** |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **8.41792** | 480 | **8.41807** | 480 | **1.58193** | **9.99985** | 0 | **30** |
| 31 | 8.42272 | 474 | 8.42287 | 475 | 1.57713 | 9.99985 | 1 | 29 |
| 32 | 8.42746 | 470 | 8.42762 | 470 | 1.57238 | 9.99984 | 0 | 28 |
| 33 | 8.43216 | 464 | 8.43232 | 464 | 1.56768 | 9.99984 | 0 | 27 |
| 34 | 8.43680 | 459 | 8.43696 | 460 | 1.56304 | 9.99984 | 1 | 26 |
| **35** | **8.44139** | 455 | **8.44156** | 455 | **1.55844** | **9.99983** | 0 | **25** |
| 36 | 8.44594 | 450 | 8.44611 | 450 | 1.55389 | 9.99983 | 0 | 24 |
| 37 | 8.45044 | 445 | 8.45061 | 446 | 1.54939 | 9.99983 | 1 | 23 |
| 38 | 8.45489 | 441 | 8.45507 | 441 | 1.54493 | 9.99982 | 0 | 22 |
| 39 | 8.45930 | 436 | 8.45948 | 437 | 1.54052 | 9.99982 | 0 | 21 |
| **40** | **8.46366** | 433 | **8.46385** | 432 | **1.53615** | **9.99982** | 1 | **20** |
| 41 | 8.46799 | 427 | 8.46817 | 428 | 1.53183 | 9.99981 | 0 | 19 |
| 42 | 8.47226 | 424 | 8.47245 | 424 | 1.52755 | 9.99981 | 0 | 18 |
| 43 | 8.47650 | 419 | 8.47669 | 420 | 1.52331 | 9.99981 | 1 | 17 |
| 44 | 8.48069 | 416 | 8.48089 | 416 | 1.51911 | 9.99980 | 0 | 16 |
| **45** | **8.48485** | 411 | **8.48505** | 412 | **1.51495** | **9.99980** | 1 | **15** |
| 46 | 8.48896 | 408 | 8.48917 | 408 | 1.51083 | 9.99979 | 0 | 14 |
| 47 | 8.49304 | 404 | 8.49325 | 404 | 1.50675 | 9.99979 | 0 | 13 |
| 48 | 8.49708 | 400 | 8.49729 | 401 | 1.50271 | 9.99979 | 1 | 12 |
| 49 | 8.50108 | 396 | 8.50130 | 397 | 1.49870 | 9.99978 | 0 | 11 |
| **50** | **8.50504** | 393 | **8.50527** | 393 | **1.49473** | **9.99978** | 1 | **10** |
| 51 | 8.50897 | 390 | 8.50920 | 390 | 1.49080 | 9.99977 | 0 | 9 |
| 52 | 8.51287 | 386 | 8.51310 | 386 | 1.48690 | 9.99977 | 0 | 8 |
| 53 | 8.51673 | 382 | 8.51696 | 383 | 1.48304 | 9.99977 | 1 | 7 |
| 54 | 8.52055 | 379 | 8.52079 | 380 | 1.47921 | 9.99976 | 0 | 6 |
| **55** | **8.52434** | 376 | **8.52459** | 376 | **1.47541** | **9.99976** | 1 | **5** |
| 56 | 8.52810 | 373 | 8.52835 | 373 | 1.47165 | 9.99975 | 0 | 4 |
| 57 | 8.53183 | 369 | 8.53208 | 370 | 1.46792 | 9.99975 | 1 | 3 |
| 58 | 8.53552 | 367 | 8.53578 | 367 | 1.46422 | 9.99974 | 0 | 2 |
| 59 | 8.53919 | 363 | 8.53945 | 363 | 1.46055 | 9.99974 | 0 | 1 |
| **60** | **8.54282** | 360 | **8.54308** | 361 | **1.45692** | **9.99974** | 1 | **0** |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 8.54282 | 360 | 8.54308 | 361 | 1.45692 | 9.99974 | 1 | 60 |
| 1 | 8.54642 | 357 | 8.54669 | 358 | 1.45331 | 9.99973 | 0 | 59 |
| 2 | 8.54999 | 355 | 8.55027 | 355 | 1.44973 | 9.99973 | 1 | 58 |
| 3 | 8.55354 | 351 | 8.55382 | 352 | 1.44618 | 9.99972 | 0 | 57 |
| 4 | 8.55705 | 349 | 8.55734 | 349 | 1.44266 | 9.99972 | 1 | 56 |
| 5 | 8.56054 | 346 | 8.56083 | 346 | 1.43917 | 9.99971 | 0 | 55 |
| 6 | 8.56400 | 343 | 8.56429 | 344 | 1.43571 | 9.99971 | 1 | 54 |
| 7 | 8.56743 | 341 | 8.56773 | 341 | 1.43227 | 9.99970 | 0 | 53 |
| 8 | 8.57084 | 337 | 8.57114 | 338 | 1.42886 | 9.99970 | 1 | 52 |
| 9 | 8.57421 | 336 | 8.57452 | 336 | 1.42548 | 9.99969 | 0 | 51 |
| 10 | 8.57757 | 332 | 8.57788 | 333 | 1.42212 | 9.99969 | 1 | 50 |
| 11 | 8.58089 | 330 | 8.58121 | 330 | 1.41879 | 9.99968 | 0 | 49 |
| 12 | 8.58419 | 328 | 8.58451 | 328 | 1.41549 | 9.99968 | 1 | 48 |
| 13 | 8.58747 | 325 | 8.58779 | 326 | 1.41221 | 9.99967 | 0 | 47 |
| 14 | 8.59072 | 323 | 8.59105 | 323 | 1.40895 | 9.99967 | 0 | 46 |
| 15 | 8.59395 | 320 | 8.59428 | 321 | 1.40572 | 9.99967 | 1 | 45 |
| 16 | 8.59715 | 318 | 8.59749 | 319 | 1.40251 | 9.99966 | 0 | 44 |
| 17 | 8.60033 | 316 | 8.60068 | 316 | 1.39932 | 9.99966 | 1 | 43 |
| 18 | 8.60349 | 313 | 8.60384 | 314 | 1.39616 | 9.99965 | 1 | 42 |
| 19 | 8.60662 | 311 | 8.60698 | 311 | 1.39302 | 9.99964 | 0 | 41 |
| 20 | 8.60973 | 309 | 8.61009 | 310 | 1.38991 | 9.99964 | 1 | 40 |
| 21 | 8.61282 | 307 | 8.61319 | 307 | 1.38681 | 9.99963 | 0 | 39 |
| 22 | 8.61589 | 305 | 8.61626 | 305 | 1.38374 | 9.99963 | 1 | 38 |
| 23 | 8.61894 | 302 | 8.61931 | 303 | 1.38069 | 9.99962 | 0 | 37 |
| 24 | 8.62196 | 301 | 8.62234 | 301 | 1.37766 | 9.99962 | 1 | 36 |
| 25 | 8.62497 | 298 | 8.62535 | 299 | 1.37465 | 9.99961 | 0 | 35 |
| 26 | 8.62795 | 296 | 8.62834 | 297 | 1.37166 | 9.99961 | 1 | 34 |
| 27 | 8.63091 | 294 | 8.63131 | 295 | 1.36869 | 9.99960 | 0 | 33 |
| 28 | 8.63385 | 293 | 8.63426 | 292 | 1.36574 | 9.99960 | 1 | 32 |
| 29 | 8.63678 | 290 | 8.63718 | 291 | 1.36282 | 9.99959 | 0 | 31 |
| 30 | 8.63968 | 288 | 8.64009 | 289 | 1.35991 | 9.99959 | 1 | 30 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **8.63968** | 288 | **8.64009** | 289 | **1.35991** | **9.99959** | 1 | **30** |
| 31 | 8.64256 | 287 | 8.64298 | 287 | 1.35702 | 9.99958 | 0 | 29 |
| 32 | 8.64543 | 284 | 8.64585 | 285 | 1.35415 | 9.99958 | 1 | 28 |
| 33 | 8.64827 | 283 | 8.64870 | 284 | 1.35130 | 9.99957 | 1 | 27 |
| 34 | 8.65110 | 281 | 8.65154 | 281 | 1.34846 | 9.99956 | 0 | 26 |
| **35** | **8.65391** | 279 | **8.65435** | 280 | **1.34565** | **9.99956** | 1 | **25** |
| 36 | 8.65670 | 277 | 8.65715 | 278 | 1.34285 | 9.99955 | 0 | 24 |
| 37 | 8.65947 | 276 | 8.65993 | 276 | 1.34007 | 9.99955 | 1 | 23 |
| 38 | 8.66223 | 274 | 8.66269 | 274 | 1.33731 | 9.99954 | 0 | 22 |
| 39 | 8.66497 | 272 | 8.66543 | 273 | 1.33457 | 9.99954 | 1 | 21 |
| **40** | **8.66769** | 270 | **8.66816** | 271 | **1.33184** | **9.99953** | 1 | **20** |
| 41 | 8.67039 | 269 | 8.67087 | 269 | 1.32913 | 9.99952 | 0 | 19 |
| 42 | 8.67308 | 267 | 8.67356 | 268 | 1.32644 | 9.99952 | 1 | 18 |
| 43 | 8.67575 | 266 | 8.67624 | 266 | 1.32376 | 9.99951 | 0 | 17 |
| 44 | 8.67841 | 263 | 8.67890 | 264 | 1.32110 | 9.99951 | 1 | 16 |
| **45** | **8.68104** | 263 | **8.68154** | 263 | **1.31846** | **9.99950** | 1 | **15** |
| 46 | 8.68367 | 260 | 8.68417 | 261 | 1.31583 | 9.99949 | 0 | 14 |
| 47 | 8.68627 | 259 | 8.68678 | 260 | 1.31322 | 9.99949 | 1 | 13 |
| 48 | 8.68886 | 258 | 8.68938 | 258 | 1.31062 | 9.99948 | 0 | 12 |
| 49 | 8.69144 | 256 | 8.69196 | 257 | 1.30804 | 9.99948 | 1 | 11 |
| **50** | **8.69400** | 254 | **8.69453** | 255 | **1.30547** | **9.99947** | 1 | **10** |
| 51 | 8.69654 | 253 | 8.69708 | 254 | 1.30292 | 9.99946 | 0 | 9 |
| 52 | 8.69907 | 252 | 8.69962 | 252 | 1.30038 | 9.99946 | 1 | 8 |
| 53 | 8.70159 | 250 | 8.70214 | 251 | 1.29786 | 9.99945 | 1 | 7 |
| 54 | 8.70409 | 249 | 8.70465 | 249 | 1.29535 | 9.99944 | 0 | 6 |
| **55** | **8.70658** | 247 | **8.70714** | 248 | **1.29286** | **9.99944** | 1 | **5** |
| 56 | 8.70905 | 246 | 8.70962 | 246 | 1.29038 | 9.99943 | 1 | 4 |
| 57 | 8.71151 | 244 | 8.71208 | 245 | 1.28792 | 9.99942 | 0 | 3 |
| 58 | 8.71395 | 243 | 8.71453 | 244 | 1.28547 | 9.99942 | 1 | 2 |
| 59 | 8.71638 | 242 | 8.71697 | 243 | 1.28303 | 9.99941 | 1 | 1 |
| **60** | **8.71880** | | **8.71940** | | **1.28060** | **9.99940** | | **0** |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

# 3°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds | |
|---|---|---|---|---|---|---|---|---|---|---|
| **0** | **8.71880** | | **8.71940** | | **1.28060** | **9.99940** | | **60** | 240 | 238 |
| | | 240 | | 241 | | | 0 | | 6 24.0 | 23.8 |
| 1 | 8.72120 | | 8.72181 | | 1.27819 | 9.99940 | | 59 | 7 28.0 | 27.8 |
| | | 239 | | 239 | | | 1 | | 8 32.0 | 31.7 |
| 2 | 8.72359 | | 8.72420 | | 1.27580 | 9.99939 | | 58 | 9 36.0 | 35.7 |
| | | 238 | | 239 | | | 1 | | 10 40.0 | 39.7 |
| 3 | 8.72597 | | 8.72659 | | 1.27341 | 9.99938 | | 57 | 20 80.0 | 79.3 |
| | | 237 | | 237 | | | 0 | | 30 120.0 | 119.0 |
| 4 | 8.72834 | | 8.72896 | | 1.27104 | 9.99938 | | 56 | 40 160.0 | 158.7 |
| | | 235 | | 236 | | | 1 | | 50 200.0 | 198.3 |
| **5** | **8.73069** | | **8.73132** | | **1.26868** | **9.99937** | | **55** | 236 | 234 |
| | | 234 | | 234 | | | 1 | | 6 23.6 | 23.4 |
| 6 | 8.73303 | | 8.73366 | | 1.26634 | 9.99936 | | 54 | 7 27.5 | 27.3 |
| | | 232 | | 234 | | | 0 | | 8 31.5 | 31.2 |
| 7 | 8.73535 | | 8.73600 | | 1.26400 | 9.99936 | | 53 | 9 35.4 | 35.1 |
| | | 232 | | 232 | | | 1 | | 10 39.3 | 39.0 |
| 8 | 8.73767 | | 8.73832 | | 1.26168 | 9.99935 | | 52 | 20 78.7 | 78.0 |
| | | 230 | | 231 | | | 1 | | 30 118.0 | 117.0 |
| 9 | 8.73997 | | 8.74063 | | 1.25937 | 9.99934 | | 51 | 40 157.3 | 156.0 |
| | | 229 | | 229 | | | 0 | | 50 196.7 | 195.0 |
| **10** | **8.74226** | | **8.74292** | | **1.25708** | **9.99934** | | **50** | 232 | 230 |
| | | 228 | | 229 | | | 1 | | 6 23.2 | 23.0 |
| 11 | 8.74454 | | 8.74521 | | 1.25479 | 9.99933 | | 49 | 7 27.1 | 26.8 |
| | | 226 | | 227 | | | 1 | | 8 30.9 | 30.7 |
| 12 | 8.74680 | | 8.74748 | | 1.25252 | 9.99932 | | 48 | 9 34.8 | 34.5 |
| | | 226 | | 226 | | | 0 | | 10 38.7 | 38.3 |
| 13 | 8.74906 | | 8.74974 | | 1.25026 | 9.99932 | | 47 | 20 77.3 | 76.7 |
| | | 224 | | 225 | | | 1 | | 30 116.0 | 115.0 |
| 14 | 8.75130 | | 8.75199 | | 1.24801 | 9.99931 | | 46 | 40 154.7 | 153.3 |
| | | 223 | | 224 | | | 1 | | 50 193.3 | 191.7 |
| **15** | **8.75353** | | **8.75423** | | **1.24577** | **9.99930** | | **45** | 228 | 226 |
| | | 222 | | 222 | | | 1 | | 6 22.8 | 22.6 |
| 16 | 8.75575 | | 8.75645 | | 1.24355 | 9.99929 | | 44 | 7 26.6 | 26.4 |
| | | 220 | | 222 | | | 0 | | 8 30.4 | 30.1 |
| 17 | 8.75795 | | 8.75867 | | 1.24133 | 9.99929 | | 43 | 9 34.2 | 33.9 |
| | | 220 | | 220 | | | 1 | | 10 38.0 | 37.7 |
| 18 | 8.76015 | | 8.76087 | | 1.23913 | 9.99928 | | 42 | 20 76.0 | 75.3 |
| | | 219 | | 219 | | | 1 | | 30 114.0 | 113.0 |
| 19 | 8.76234 | | 8.76306 | | 1.23694 | 9.99927 | | 41 | 40 152.0 | 150.7 |
| | | 217 | | 219 | | | 1 | | 50 190.0 | 188.3 |
| **20** | **8.76451** | | **8.76525** | | **1.23475** | **9.99926** | | **40** | 224 | 222 |
| | | 216 | | 217 | | | 0 | | 6 22.4 | 22.2 |
| 21 | 8.76667 | | 8.76742 | | 1.23258 | 9.99926 | | 39 | 7 26.1 | 25.9 |
| | | 216 | | 216 | | | 1 | | 8 29.9 | 29.6 |
| 22 | 8.76883 | | 8.76958 | | 1.23042 | 9.99925 | | 38 | 9 33.6 | 33.3 |
| | | 214 | | 215 | | | 1 | | 10 37.3 | 37.0 |
| 23 | 8.77097 | | 8.77173 | | 1.22827 | 9.99924 | | 37 | 20 74.7 | 74.0 |
| | | 213 | | 214 | | | 1 | | 30 112 0 | 111.0 |
| 24 | 8.77310 | | 8.77387 | | 1.22613 | 9.99923 | | 36 | 40 149.3 | 148.0 |
| | | 212 | | 213 | | | 0 | | 50 186.7 | 185.0 |
| **25** | **8.77522** | | **8.77600** | | **1.22400** | **9.99923** | | **35** | 220 | 218 |
| | | 211 | | 211 | | | 1 | | 6 22.0 | 21.8 |
| 26 | 8.77733 | | 8.77811 | | 1.22189 | 9.99922 | | 34 | 7 25.7 | 25.4 |
| | | 210 | | 211 | | | 1 | | 8 29.3 | 29.1 |
| 27 | 8.77943 | | 8.78022 | | 1.21978 | 9.99921 | | 33 | 9 33.0 | 32.7 |
| | | 209 | | 210 | | | 1 | | 10 36.7 | 36.3 |
| 28 | 8.78152 | | 8.78232 | | 1.21768 | 9.99920 | | 32 | 20 73.3 | 72.7 |
| | | 208 | | 209 | | | 0 | | 30 110.0 | 109.0 |
| 29 | 8.78360 | | 8.78441 | | 1.21559 | 9.99920 | | 31 | 40 146.7 | 145.3 |
| | | 208 | | 208 | | | 1 | | 50 183.3 | 181.7 |
| **30** | **8.78568** | | **8.78649** | | **1.21351** | **9.99919** | | **30** | | |
| | | 206 | | 206 | | | 1 | | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. | |

# 86°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **8.78568** | | **8.78649** | | **1.21351** | **9.99919** | | 30 |
| | | 206 | | 206 | | | 1 | |
| 31 | 8.78774 | | 8.78855 | | 1.21145 | 9.99918 | | 29 |
| | | 205 | | 206 | | | 1 | |
| 32 | 8.78979 | | 8.79061 | | 1.20939 | 9.99917 | | 28 |
| | | 204 | | 205 | | | 0 | |
| 33 | 8.79183 | | 8.79266 | | 1.20734 | 9.99917 | | 27 |
| | | 203 | | 204 | | | 1 | |
| 34 | 8.79386 | | 8.79470 | | 1.20530 | 9.99916 | | 26 |
| | | 202 | | 203 | | | 1 | |
| **35** | **8.79588** | | **8.79673** | | **1.20327** | **9.99915** | | 25 |
| | | 201 | | 202 | | | 1 | |
| 36 | 8.79789 | | 8.79875 | | 1.20125 | 9.99914 | | 24 |
| | | 201 | | 201 | | | 1 | |
| 37 | 8.79990 | | 8.80076 | | 1.19924 | 9.99913 | | 23 |
| | | 199 | | 201 | | | 0 | |
| 38 | 8.80189 | | 8.80277 | | 1.19723 | 9.99913 | | 22 |
| | | 199 | | 199 | | | 1 | |
| 39 | 8.80388 | | 8.80476 | | 1.19524 | 9.99912 | | 21 |
| | | 197 | | 198 | | | 1 | |
| **40** | **8.80585** | | **8.80674** | | **1.19326** | **9.99911** | | 20 |
| | | 197 | | 198 | | | 1 | |
| 41 | 8.80782 | | 8.80872 | | 1.19128 | 9.99910 | | 19 |
| | | 196 | | 196 | | | 1 | |
| 42 | 8.80978 | | 8.81068 | | 1.18932 | 9.99909 | | 18 |
| | | 195 | | 196 | | | 0 | |
| 43 | 8.81173 | | 8.81264 | | 1.18736 | 9.99909 | | 17 |
| | | 194 | | 195 | | | 1 | |
| 44 | 8.81367 | | 8.81459 | | 1.18541 | 9.99908 | | 16 |
| | | 193 | | 194 | | | 1 | |
| **45** | **8.81560** | | **8.81653** | | **1.18347** | **9.99907** | | 15 |
| | | 192 | | 193 | | | 1 | |
| 46 | 8.81752 | | 8.81846 | | 1.18154 | 9.99906 | | 14 |
| | | 192 | | 192 | | | 1 | |
| 47 | 8.81944 | | 8.82038 | | 1.17962 | 9.99905 | | 13 |
| | | 190 | | 192 | | | 1 | |
| 48 | 8.82134 | | 8.82230 | | 1.17770 | 9.99904 | | 12 |
| | | 190 | | 190 | | | 0 | |
| 49 | 8.82324 | | 8.82420 | | 1.17580 | 9.99904 | | 11 |
| | | 189 | | 190 | | | 1 | |
| **50** | **8.82513** | | **8.82610** | | **1.17390** | **9.99903** | | 10 |
| | | 188 | | 189 | | | 1 | |
| 51 | 8.82701 | | 8.82799 | | 1.17201 | 9.99902 | | 9 |
| | | 187 | | 188 | | | 1 | |
| 52 | 8.82888 | | 8.82987 | | 1.17013 | 9.99901 | | 8 |
| | | 187 | | 188 | | | 1 | |
| 53 | 8.83075 | | 8.83175 | | 1.16825 | 9.99900 | | 7 |
| | | 186 | | 186 | | | 1 | |
| 54 | 8.83261 | | 8.83361 | | 1.16639 | 9.99899 | | 6 |
| | | 185 | | 186 | | | 1 | |
| **55** | **8.83446** | | **8.83547** | | **1.16453** | **9.99898** | | 5 |
| | | 184 | | 185 | | | 0 | |
| 56 | 8.83630 | | 8.83732 | | 1.16268 | 9.99898 | | 4 |
| | | 183 | | 184 | | | 1 | |
| 57 | 8.83813 | | 8.83916 | | 1.16084 | 9.99897 | | 3 |
| | | 183 | | 184 | | | 1 | |
| 58 | 8.83996 | | 8.84100 | | 1.15900 | 9.99896 | | 2 |
| | | 181 | | 182 | | | 1 | |
| 59 | 8.84177 | | 8.84282 | | 1.15718 | 9.99895 | | 1 |
| | | 181 | | 182 | | | 1 | |
| **60** | **8.84358** | | **8.84464** | | **1.15536** | **9.99894** | | 0 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

| PP. Seconds | | |
|---|---|---|
| | 216 | 214 |
| 6 | 21.6 | 21.4 |
| 7 | 25.2 | 25.0 |
| 8 | 28.8 | 28.5 |
| 9 | 32.4 | 32.1 |
| 10 | 36.0 | 35.7 |
| 20 | 72.0 | 71.3 |
| 30 | 108.0 | 107.0 |
| 40 | 144.0 | 142.7 |
| 50 | 180.0 | 178.3 |
| | 212 | 210 |
| 6 | 21.2 | 21.0 |
| 7 | 24.7 | 24.5 |
| 8 | 28.3 | 28.0 |
| 9 | 31.8 | 31.5 |
| 10 | 35.3 | 35.0 |
| 20 | 70.7 | 70.0 |
| 30 | 106.0 | 105.0 |
| 40 | 141.3 | 140.0 |
| 50 | 176.7 | 175.0 |
| | 208 | 206 |
| 6 | 20.8 | 20.6 |
| 7 | 24.3 | 24.0 |
| 8 | 27.7 | 27.5 |
| 9 | 31.2 | 30.9 |
| 10 | 34.7 | 34.3 |
| 20 | 69.3 | 68.7 |
| 30 | 104.0 | 103.0 |
| 40 | 138.7 | 137.3 |
| 50 | 173.3 | 171.7 |
| | 204 | 202 |
| 6 | 20.4 | 20.2 |
| 7 | 23.8 | 23.6 |
| 8 | 27.2 | 26.9 |
| 9 | 30.6 | 30.3 |
| 10 | 34.0 | 33.7 |
| 20 | 68.0 | 67.3 |
| 30 | 102.0 | 101.0 |
| 40 | 136.0 | 134.7 |
| 50 | 170.0 | 168.3 |
| | 200 | 198 |
| 6 | 20.0 | 19.8 |
| 7 | 23.3 | 23.1 |
| 8 | 26.7 | 26.4 |
| 9 | 30.0 | 29.7 |
| 10 | 33.3 | 33.0 |
| 20 | 66.7 | 66.0 |
| 30 | 100.0 | 99.0 |
| 40 | 133.3 | 132.0 |
| 50 | 166.7 | 165.0 |
| | 196 | 194 |
| 6 | 19.6 | 19.4 |
| 7 | 22.9 | 22.6 |
| 8 | 26.1 | 25.9 |
| 9 | 29.4 | 29.1 |
| 10 | 32.7 | 32.3 |
| 20 | 65.3 | 64.7 |
| 30 | 98.0 | 97.0 |
| 40 | 130.7 | 129.3 |
| 50 | 163.3 | 161.7 |

PP.

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **8.84358** | | **8.84464** | | **1.15536** | **9.99894** | | 60 | 192 190 |
| | | 181 | | 182 | | | 1 | | 6 19.2 19.0 |
| 1 | 8.84539 | | 8.84646 | | 1.15354 | 9.99893 | | 59 | 7 22.4 22.2 |
| | | 179 | | 180 | | | 1 | | 8 25.6 25.3 |
| 2 | 8.84718 | | 8.84826 | | 1.15174 | 9.99892 | | 58 | 9 28.8 28.5 |
| | | 179 | | 180 | | | 1 | | 10 32.0 31.7 |
| 3 | 8.84897 | | 8.85006 | | 1.14994 | 9.99891 | | 57 | 20 64.0 63.3 |
| | | 178 | | 179 | | | 0 | | 30 96.0 95.0 |
| 4 | 8.85075 | | 8.85185 | | 1.14815 | 9.99891 | | 56 | 40 128.0 126.7 |
| | | 177 | | 178 | | | 1 | | 50 160.0 158.3 |
| **5** | **8.85252** | | **8.85363** | | **1.14637** | **9.99890** | | 55 | 188 186 |
| | | 177 | | 177 | | | 1 | | 6 18.8 18.6 |
| 6 | 8.85429 | | 8.85540 | | 1.14460 | 9.99889 | | 54 | 7 21.9 21.7 |
| | | 176 | | 177 | | | 1 | | 8 25.1 24.8 |
| 7 | 8.85605 | | 8.85717 | | 1.14283 | 9.99888 | | 53 | 9 28.2 27.9 |
| | | 175 | | 176 | | | 1 | | 10 31.3 31.0 |
| 8 | 8.85780 | | 8.85893 | | 1.14107 | 9.99887 | | 52 | 20 62.7 62.0 |
| | | 175 | | 176 | | | 1 | | 30 94.0 93.0 |
| 9 | 8.85955 | | 8.86069 | | 1.13931 | 9.99886 | | 51 | 40 125.3 124.0 |
| | | 173 | | 174 | | | 1 | | 50 156.7 155.0 |
| **10** | **8.86128** | | **8.86243** | | **1.13757** | **9.99885** | | 50 | 184 182 |
| | | 173 | | 174 | | | 1 | | 6 18.4 18.2 |
| 11 | 8.86301 | | 8.86417 | | 1.13583 | 9.99884 | | 49 | 7 21.5 21.2 |
| | | 173 | | 174 | | | 1 | | 8 24.5 24.3 |
| 12 | 8.86474 | | 8.86591 | | 1.13409 | 9.99883 | | 48 | 9 27.6 27.3 |
| | | 171 | | 172 | | | 1 | | 10 30.7 30.3 |
| 13 | 8.86645 | | 8.86763 | | 1.13237 | 9.99882 | | 47 | 20 61.3 60.7 |
| | | 171 | | 172 | | | 1 | | 30 92.0 91.0 |
| 14 | 8.86816 | | 8.86935 | | 1.13065 | 9.99881 | | 46 | 40 122.7 121.3 |
| | | 171 | | 171 | | | 1 | | 50 153.3 151.7 |
| **15** | **8.86987** | | **8.87106** | | **1.12894** | **9.99880** | | 45 | 180 178 |
| | | 169 | | 171 | | | 1 | | 6 18.0 17.8 |
| 16 | 8.87156 | | 8.87277 | | 1.12723 | 9.99879 | | 44 | 7 21.0 20.8 |
| | | 169 | | 170 | | | 0 | | 8 24.0 23.7 |
| 17 | 8.87325 | | 8.87447 | | 1.12553 | 9.99879 | | 43 | 9 27.0 26.7 |
| | | 169 | | 169 | | | 1 | | 10 30.0 29.7 |
| 18 | 8.87494 | | 8.87616 | | 1.12384 | 9.99878 | | 42 | 20 60.0 59.3 |
| | | 167 | | 169 | | | 1 | | 30 90.0 89.0 |
| 19 | 8.87661 | | 8.87785 | | 1.12215 | 9.99877 | | 41 | 40 120.0 118.7 |
| | | 168 | | 168 | | | 1 | | 50 150.0 148.3 |
| **20** | **8.87829** | | **8.87953** | | **1.12047** | **9.99876** | | 40 | 176 174 |
| | | 166 | | 167 | | | 1 | | 6 17.6 17.4 |
| 21 | 8.87995 | | 8.88120 | | 1.11880 | 9.99875 | | 39 | 7 20.5 20.3 |
| | | 166 | | 167 | | | 1 | | 8 23.5 23.2 |
| 22 | 8.88161 | | 8.88287 | | 1.11713 | 9.99874 | | 38 | 9 26.4 26.1 |
| | | 165 | | 166 | | | 1 | | 10 29.3 29.0 |
| 23 | 8.88326 | | 8.88453 | | 1.11547 | 9.99873 | | 37 | 20 58.7 58.0 |
| | | 164 | | 165 | | | 1 | | 30 88.0 87.0 |
| 24 | 8.88490 | | 8.88618 | | 1.11382 | 9.99872 | | 36 | 40 117.3 116.0 |
| | | 164 | | 165 | | | 1 | | 50 146.7 145.0 |
| **25** | **8.88654** | | **8.88783** | | **1.11217** | **9.99871** | | 35 | 172 170 |
| | | 163 | | 165 | | | 1 | | 6 17.2 17.0 |
| 26 | 8.88817 | | 8.88948 | | 1.11052 | 9.99870 | | 34 | 7 20.1 19.8 |
| | | 163 | | 163 | | | 1 | | 8 22.9 22.7 |
| 27 | 8.88980 | | 8.89111 | | 1.10889 | 9.99869 | | 33 | 9 25.8 25.5 |
| | | 162 | | 163 | | | 1 | | 10 28.7 28.3 |
| 28 | 8.89142 | | 8.89274 | | 1.10726 | 9.99868 | | 32 | 20 57.3 56.7 |
| | | 162 | | 163 | | | 1 | | 30 86.0 85.0 |
| 29 | 8.89304 | | 8.89437 | | 1.10563 | 9.99867 | | 31 | 40 114.7 113.3 |
| | | 160 | | 161 | | | 1 | | 50 143.3 141.7 |
| **30** | **8.89464** | | **8.89598** | | **1.10402** | **9.99866** | | 30 | |
| | | 161 | | 162 | | | 1 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds | |
|---|---|---|---|---|---|---|---|---|---|---|
| **30** | **8.89464** | | **8.89598** | | **1.10402** | **9.99866** | | **30** | | |
| | | 161 | | 162 | | | 1 | | 168 | 166 |
| 31 | 8.89625 | | 8.89760 | | 1.10240 | 9.99865 | | | 6 16.8 | 16.6 |
| | | 159 | | 160 | | | 1 | 29 | 7 19.6 | 19.4 |
| 32 | 8.89784 | | 8.89920 | | 1.10080 | 9.99864 | | 28 | 8 22.4 | 22.1 |
| | | 159 | | 160 | | | 1 | | 9 25.2 | 24.9 |
| 33 | 8.89943 | | 8.90080 | | 1.09920 | 9.99863 | | 27 | 10 28.0 | 27.7 |
| | | 159 | | 160 | | | 1 | | 20 56.0 | 55.3 |
| 34 | 8.90102 | | 8.90240 | | 1.09760 | 9.99862 | | 26 | 30 84.0 | 83.0 |
| | | 158 | | 159 | | | 1 | | 40 112.0 | 110.7 |
| **35** | **8.90260** | | **8.90399** | | **1.09601** | **9.99861** | | **25** | 50 140.0 | 138.3 |
| | | 157 | | 158 | | | 1 | | 164 | 162 |
| 36 | 8.90417 | | 8.90557 | | 1.09443 | 9.99860 | | | 6 16.4 | 16.2 |
| | | 157 | | 158 | | | 1 | 24 | 7 19.1 | 18.9 |
| 37 | 8.90574 | | 8.90715 | | 1.09285 | 9.99859 | | 23 | 8 21.9 | 21.6 |
| | | 156 | | 157 | | | 1 | | 9 24.6 | 24.3 |
| 38 | 8.90730 | | 8.90872 | | 1.09128 | 9.99858 | | 22 | 10 27.3 | 27.0 |
| | | 155 | | 157 | | | 1 | 21 | 20 54.7 | 54.0 |
| 39 | 8.90885 | | 8.91029 | | 1.08971 | 9.99857 | | | 30 82.0 | 81.0 |
| | | 155 | | 156 | | | 1 | | 40 109.3 | 108.0 |
| **40** | **8.91040** | | **8.91185** | | **1.08815** | **9.99856** | | **20** | 50 136.7 | 135.0 |
| | | 155 | | 155 | | | 1 | | 160 | 158 |
| 41 | 8.91195 | | 8.91340 | | 1.08660 | 9.99855 | | 19 | 6 16.0 | 15.8 |
| | | 154 | | 155 | | | 1 | | 7 18.7 | 18.4 |
| 42 | 8.91349 | | 8.91495 | | 1.08505 | 9.99854 | | 18 | 8 21.3 | 21.1 |
| | | 153 | | 155 | | | 1 | 17 | 9 24.0 | 23.7 |
| 43 | 8.91502 | | 8.91650 | | 1.08350 | 9.99853 | | | 10 26.7 | 26.3 |
| | | 153 | | 153 | | | 1 | 16 | 20 53.3 | 52.7 |
| 44 | 8.91655 | | 8.91803 | | 1.08197 | 9.99852 | | | 30 80.0 | 79.0 |
| | | 152 | | 154 | | | 1 | | 40 106.7 | 105.3 |
| **45** | **8.91807** | | **8.91957** | | **1.08043** | **9.99851** | | **15** | 50 133.3 | 131.7 |
| | | 152 | | 153 | | | 1 | | 156 | 154 |
| 46 | 8.91959 | | 8.92110 | | 1.07890 | 9.99850 | | 14 | 6 15.6 | 15.4 |
| | | 151 | | 152 | | | 2 | | 7 18.2 | 18.0 |
| 47 | 8.92110 | | 8.92262 | | 1.07738 | 9.99848 | | 13 | 8 20.8 | 20.5 |
| | | 151 | | 152 | | | 1 | 12 | 9 23.4 | 23.1 |
| 48 | 8.92261 | | 8.92414 | | 1.07586 | 9.99847 | | | 10 26.0 | 25.7 |
| | | 150 | | 151 | | | 1 | 11 | 20 52.0 | 51.3 |
| 49 | 8.92411 | | 8.92565 | | 1.07435 | 9.99846 | | | 30 78.0 | 77.0 |
| | | 150 | | 151 | | | 1 | | 40 104.0 | 102.7 |
| **50** | **8.92561** | | **8.92716** | | **1.07284** | **9.99845** | | **10** | 50 130.0 | 128.3 |
| | | 149 | | 150 | | | 1 | | 152 | 150 |
| 51 | 8.92710 | | 8.92866 | | 1.07134 | 9.99844 | | 9 | 6 15.2 | 15.0 |
| | | 149 | | 150 | | | 1 | | 7 17.7 | 17.5 |
| 52 | 8.92859 | | 8.93016 | | 1.06984 | 9.99843 | | 8 | 8 20.3 | 20.0 |
| | | 148 | | 149 | | | 1 | | 9 22.8 | 22.5 |
| 53 | 8.93007 | | 8.93165 | | 1.06835 | 9.99842 | | 7 | 10 25.3 | 25.0 |
| | | 147 | | 148 | | | 1 | | 20 50.7 | 50.0 |
| 54 | 8.93154 | | 8.93313 | | 1.06687 | 9.99841 | | 6 | 30 76.0 | 75.0 |
| | | 147 | | 149 | | | 1 | | 40 101.3 | 100.0 |
| **55** | **8.93301** | | **8.93462** | | **1.06538** | **9.99840** | | **5** | 50 126.7 | 125.0 |
| | | 147 | | 147 | | | 1 | | 148 | 146 |
| 56 | 8.93448 | | 8.93609 | | 1.06391 | 9.99839 | | 4 | 6 14.8 | 14.6 |
| | | 146 | | 147 | | | 1 | | 7 17.3 | 17.0 |
| 57 | 8.93594 | | 8.93756 | | 1.06244 | 9.99838 | | 3 | 8 19.7 | 19.5 |
| | | 146 | | 147 | | | 1 | | 9 22.2 | 21.9 |
| 58 | 8.93740 | | 8.93903 | | 1.06097 | 9.99837 | | 2 | 10 24.7 | 24.3 |
| | | 145 | | 146 | | | 1 | | 20 49.3 | 48.7 |
| 59 | 8.93885 | | 8.94049 | | 1.05951 | 9.99836 | | 1 | 30 74.0 | 73.0 |
| | | 145 | | 146 | | | 2 | | 40 98.7 | 97.3 |
| **60** | **8.94030** | | **8.94195** | | **1.05805** | **9.99834** | | **0** | 50 123.3 | 121.7 |
| | | 144 | | 145 | | | 1 | | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. | |

# 5°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 8.94030 | | 8.94195 | | 1.05805 | 9.99834 | | 60 | | |
| | | 144 | | 145 | | | 1 | | 146 | 144 |
| 1 | 8.94174 | | 8.94340 | | 1.05660 | 9.99833 | | 59 | 1 2.4 | 2.4 |
| | | 143 | | 145 | | | 1 | | 2 4.9 | 4.8 |
| 2 | 8.94317 | | 8.94485 | | 1.05515 | 9.99832 | | 58 | 3 7.3 | 7.2 |
| | | 144 | | 145 | | | 1 | | 4 9.7 | 9.6 |
| 3 | 8.94461 | | 8.94630 | | 1.05370 | 9.99831 | | 57 | 5 12.2 | 12.0 |
| | | 142 | | 143 | | | 1 | | 6 14.6 | 14.4 |
| 4 | 8.94603 | | 8.94773 | | 1.05227 | 9.99830 | | 56 | 7 17.0 | 16.8 |
| | | 143 | | 144 | | | 1 | | 8 19.5 | 19.2 |
| 5 | 8.94746 | | 8.94917 | | 1.05083 | 9.99829 | | 55 | 9 21.9 | 21.6 |
| | | 141 | | 143 | | | 1 | | 10 24.3 | 24.0 |
| 6 | 8.94887 | | 8.95060 | | 1.04940 | 9.99828 | | 54 | 20 48.7 | 48.0 |
| | | 142 | | 142 | | | 1 | | 30 73.0 | 72.0 |
| 7 | 8.95029 | | 8.95202 | | 1.04798 | 9.99827 | | 53 | 40 97.3 | 96.0 |
| | | 141 | | 142 | | | 2 | | 50 121.7 | 120.0 |
| 8 | 8.95170 | | 8.95344 | | 1.04656 | 9.99825 | | 52 | | |
| | | 140 | | 142 | | | 1 | | 142 | 140 |
| 9 | 8.95310 | | 8.95486 | | 1.04514 | 9.99824 | | 51 | 1 2.4 | 2.3 |
| | | 140 | | 141 | | | 1 | | 2 4.7 | 4.7 |
| 10 | 8.95450 | | 8.95627 | | 1.04373 | 9.99823 | | 50 | 3 7.1 | 7.0 |
| | | 139 | | 140 | | | 1 | | 4 9.5 | 9.3 |
| 11 | 8.95589 | | 8.95767 | | 1.04233 | 9.99822 | | 49 | 5 11.8 | 11.7 |
| | | 139 | | 141 | | | 1 | | 6 14.2 | 14.0 |
| 12 | 8.95728 | | 8.95908 | | 1.04092 | 9.99821 | | 48 | 7 16.6 | 16.3 |
| | | 139 | | 139 | | | 1 | | 8 18.9 | 18.7 |
| 13 | 8.95867 | | 8.96047 | | 1.03953 | 9.99820 | | 47 | 9 21.3 | 21.0 |
| | | 138 | | 140 | | | 1 | | 10 23.7 | 23.3 |
| 14 | 8.96005 | | 8.96187 | | 1.03813 | 9.99819 | | 46 | 20 47.3 | 46.7 |
| | | 138 | | 138 | | | 2 | | 30 71.0 | 70.0 |
| 15 | 8.96143 | | 8.96325 | | 1.03675 | 9.99817 | | 45 | 40 94.7 | 93.3 |
| | | 137 | | 139 | | | 1 | | 50 118.3 | 116.7 |
| 16 | 8.96280 | | 8.96464 | | 1.03536 | 9.99816 | | 44 | | |
| | | 137 | | 138 | | | 1 | | 138 | 136 |
| 17 | 8.96417 | | 8.96602 | | 1.03398 | 9.99815 | | 43 | 1 2.3 | 2.3 |
| | | 136 | | 137 | | | 1 | | 2 4.6 | 4.5 |
| 18 | 8.96553 | | 8.96739 | | 1.03261 | 9.99814 | | 42 | 3 6.9 | 6.8 |
| | | 136 | | 138 | | | 1 | | 4 9.2 | 9.1 |
| 19 | 8.96689 | | 8.96877 | | 1.03123 | 9.99813 | | 41 | 5 11.5 | 11.3 |
| | | 136 | | 136 | | | 1 | | 6 13.8 | 13.6 |
| 20 | 8.96825 | | 8.97013 | | 1.02987 | 9.99812 | | 40 | 7 16.1 | 15.9 |
| | | 135 | | 137 | | | 2 | | 8 18.4 | 18.1 |
| 21 | 8.96960 | | 8.97150 | | 1.02850 | 9.99810 | | 39 | 9 20.7 | 20.4 |
| | | 135 | | 135 | | | 1 | | 10 23.0 | 22.7 |
| 22 | 8.97095 | | 8.97285 | | 1.02715 | 9.99809 | | 38 | 20 46.0 | 45.3 |
| | | 134 | | 136 | | | 1 | | 30 69.0 | 68.0 |
| 23 | 8.97229 | | 8.97421 | | 1.02579 | 9.99808 | | 37 | 40 92.0 | 90.7 |
| | | 134 | | 135 | | | 1 | | 50 115.0 | 113.3 |
| 24 | 8.97363 | | 8.97556 | | 1.02444 | 9.99807 | | 36 | | |
| | | 133 | | 135 | | | 1 | | 134 | 132 |
| 25 | 8.97496 | | 8.97691 | | 1.02309 | 9.99806 | | 35 | 1 2.2 | 2.2 |
| | | 133 | | 134 | | | 2 | | 2 4.5 | 4.4 |
| 26 | 8.97629 | | 8.97825 | | 1.02175 | 9.99804 | | 34 | 3 6.7 | 6.6 |
| | | 133 | | 134 | | | 1 | | 4 8.9 | 8.8 |
| 27 | 8.97762 | | 8.97959 | | 1.02041 | 9.99803 | | 33 | 5 11.2 | 11.0 |
| | | 132 | | 133 | | | 1 | | 6 13.4 | 13.2 |
| 28 | 8.97894 | | 8.98092 | | 1.01908 | 9.99802 | | 32 | 7 15.6 | 15.4 |
| | | 132 | | 133 | | | 1 | | 8 17.9 | 17.6 |
| 29 | 8.98026 | | 8.98225 | | 1.01775 | 9.99801 | | 31 | 9 20.1 | 19.8 |
| | | 131 | | 133 | | | 1 | | 10 22.3 | 22.0 |
| 30 | 8.98157 | | 8.98358 | | 1.01642 | 9.99800 | | 30 | 20 44.7 | 44.0 |
| | | 131 | | 132 | | | 2 | | 30 67.0 | 66.0 |
| | | | | | | | | | 40 89.3 | 88.0 |
| | | | | | | | | | 50 111.7 | 110.0 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. | |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds | |
|---|---|---|---|---|---|---|---|---|---|---|
| **30** | **8.98157** | | **8.98353** | | **1.01642** | **9.99800** | | **30** | | 134 132 |
| | | 131 | | 132 | | | 2 | | 1 | 2.2 2.2 |
| 31 | 8.98288 | | 8.98490 | | 1.01510 | 9.99798 | | 29 | 2 | 4.5 4.4 |
| 32 | 8.98419 | 131 | 8.98622 | 132 | 1.01378 | 9.99797 | 1 | 28 | 3 | 6.7 6.6 |
| 33 | 8.98549 | 130 | 8.98753 | 131 | 1.01247 | 9.99796 | 1 | 27 | 4 | 8.9 8.8 |
| 34 | 8.98679 | 130 | 8.98884 | 131 | 1.01116 | 9.99795 | 1 | 26 | 5 | 11.2 11.0 |
| | | 129 | | 131 | | | 2 | | 6 | 13.4 13.2 |
| **35** | **8.98808** | | **8.99015** | | **1.00985** | **9.99793** | | **25** | 7 | 15.6 15.4 |
| | | 129 | | 130 | | | 1 | | 8 | 17.9 17.6 |
| 36 | 8.98937 | | 8.99145 | | 1.00855 | 9.99792 | | 24 | 9 | 20.1 19.8 |
| 37 | 8.99066 | 129 | 8.99275 | 130 | 1.00725 | 9.99791 | 1 | 23 | 10 | 22.3 22.0 |
| 38 | 8.99194 | 128 | 8.99405 | 130 | 1.00595 | 9.99790 | 1 | 22 | 20 | 44.7 44.0 |
| 39 | 8.99322 | 128 | 8.99534 | 129 | 1.00466 | 9.99788 | 2 | 21 | 30 | 67.0 66.0 |
| | | 128 | | 128 | | | 1 | | 40 | 89.3 88.0 |
| **40** | **8.99450** | | **8.99662** | | **1.00338** | **9.99787** | | **20** | 50 | 111.7 110.0 |
| | | 127 | | 129 | | | 1 | | | 130 128 |
| 41 | 8.99577 | | 8.99791 | | 1.00209 | 9.99786 | | 19 | 1 | 2.2 2.1 |
| 42 | 8.99704 | 127 | 8.99919 | 128 | 1.00081 | 9.99785 | 1 | 18 | 2 | 4.3 4.3 |
| 43 | 8.99830 | 126 | 9.00046 | 127 | 0.99954 | 9.99783 | 2 | 17 | 3 | 6.5 6.4 |
| 44 | 8.99956 | 126 | 9.00174 | 128 | 0.99826 | 9.99782 | 1 | 16 | 4 | 8.7 8.5 |
| | | 126 | | 127 | | | 1 | | 5 | 10.8 10.7 |
| **45** | **9.00082** | | **9.00301** | | **0.99699** | **9.99781** | | **15** | 6 | 13.0 12.8 |
| | | 125 | | 126 | | | 1 | | 7 | 15.2 14.9 |
| 46 | 9.00207 | | 9.00427 | | 0.99573 | 9.99780 | | 14 | 8 | 17.3 17.1 |
| 47 | 9.00332 | 125 | 9.00553 | 126 | 0.99447 | 9.99778 | 2 | 13 | 9 | 19.5 19.2 |
| 48 | 9.00456 | 124 | 9.00679 | 126 | 0.99321 | 9.99777 | 1 | 12 | 10 | 21.7 21.3 |
| 49 | 9.00581 | 125 | 9.00805 | 126 | 0.99195 | 9.99776 | 1 | 11 | 20 | 43.3 42.7 |
| | | 123 | | 125 | | | 1 | | 30 | 65.0 64.0 |
| **50** | **9.00704** | | **9.00930** | | **0.99070** | **9.99775** | | **10** | 40 | 86.7 85.3 |
| | | 124 | | 125 | | | 2 | | 50 | 108.3 106.7 |
| 51 | 9.00828 | | 9.01055 | | 0.98945 | 9.99773 | | 9 | | 126 124 |
| 52 | 9.00951 | 123 | 9.01179 | 124 | 0.98821 | 9.99772 | 1 | 8 | 1 | 2.1 2.1 |
| 53 | 9.01074 | 123 | 9.01303 | 124 | 0.98697 | 9.99771 | 1 | 7 | 2 | 4.2 4.1 |
| 54 | 9.01196 | 122 | 9.01427 | 124 | 0.98573 | 9.99769 | 2 | 6 | 3 | 6.3 6.2 |
| | | 122 | | 123 | | | 1 | | 4 | 8.4 8.3 |
| **55** | **9.01318** | | **9.01550** | | **0.98450** | **9.99768** | | **5** | 5 | 10.5 10.3 |
| | | 122 | | 123 | | | 1 | | 6 | 12.6 12.4 |
| 56 | 9.01440 | | 9.01673 | | 0.98327 | 9.99767 | | 4 | 7 | 14.7 14.5 |
| 57 | 9.01561 | 121 | 9.01796 | 123 | 0.98204 | 9.99765 | 2 | 3 | 8 | 16.8 16.5 |
| 58 | 9.01682 | 121 | 9.01918 | 122 | 0.98082 | 9.99764 | 1 | 2 | 9 | 18.9 18.6 |
| 59 | 9.01803 | 121 | 9.02040 | 122 | 0.97960 | 9.99763 | 1 | 1 | 10 | 21.0 20.7 |
| | | 120 | | 122 | | | 2 | | 20 | 42.0 41.3 |
| **60** | **9.01923** | | **9.02162** | | **0.97838** | **9.99761** | | **0** | 30 | 63.0 62.0 |
| | | 120 | | 121 | | | 1 | | 40 | 84.0 82.7 |
| | | | | | | | | | 50 | 105.0 103.3 |
| | | | | | | | | | | 122 120 |
| | | | | | | | | | 1 | 2.0 2.0 |
| | | | | | | | | | 2 | 4.1 4.0 |
| | | | | | | | | | 3 | 6.1 6.0 |
| | | | | | | | | | 4 | 8.1 8.0 |
| | | | | | | | | | 5 | 10.2 10.0 |
| | | | | | | | | | 6 | 12.2 12.0 |
| | | | | | | | | | 7 | 14.2 14.0 |
| | | | | | | | | | 8 | 16.3 16.0 |
| | | | | | | | | | 9 | 18.3 18.0 |
| | | | | | | | | | 10 | 20.3 20.0 |
| | | | | | | | | | 20 | 40.7 40.0 |
| | | | | | | | | | 30 | 61.0 60.0 |
| | | | | | | | | | 40 | 81.3 80.0 |
| | | | | | | | | | 50 | 101.7 100.0 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. | |

# 6°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **9.01923** | | **9.02162** | | **0.97838** | **9.99761** | | **60** | 120 119 |
| | | 120 | | 121 | | | 1 | | 1 2.0 2.0 |
| 1 | 9.02043 | | 9.02283 | | 0.97717 | 9.99760 | | 59 | 2 4.0 4.0 |
| | | 120 | | 121 | | | 1 | | 3 6.0 6.0 |
| 2 | 9.02163 | | 9.02404 | | 0.97596 | 9.99759 | | 58 | 4 8.0 7.9 |
| | | 120 | | 121 | | | 2 | | 5 10.0 9.9 |
| 3 | 9.02283 | | 9.02525 | | 0.97475 | 9.99757 | | 57 | 6 12.0 11.9 |
| | | 119 | | 120 | | | 1 | | 7 14.0 13.9 |
| 4 | 9.02402 | | 9.02645 | | 0.97355 | 9.99756 | | 56 | 8 16.0 15.9 |
| | | 118 | | 121 | | | 1 | | 9 18.0 17.9 |
| **5** | **9.02520** | | **9.02766** | | **0.97234** | **9.99755** | | **55** | 10 20.0 19.8 |
| | | 119 | | 119 | | | 2 | | 20 40.0 39.7 |
| 6 | 9.02639 | | 9.02885 | | 0.97115 | 9.99753 | | 54 | 30 60.0 59.5 |
| | | 118 | | 120 | | | 1 | | 40 80.0 79.3 |
| 7 | 9.02757 | | 9.03005 | | 0.96995 | 9.99752 | | 53 | 50 100.0 99.2 |
| | | 117 | | 119 | | | 1 | | |
| 8 | 9.02874 | | 9.03124 | | 0.96876 | 9.99751 | | 52 | 118 117 |
| | | 118 | | 118 | | | 2 | | 1 2.0 2.0 |
| 9 | 9.02992 | | 9.03242 | | 0.96758 | 9.99749 | | 51 | 2 3.9 3.9 |
| | | 117 | | 119 | | | 1 | | 3 5.9 5.9 |
| **10** | **9.03109** | | **9.03361** | | **0.96639** | **9.99748** | | **50** | 4 7.9 7.8 |
| | | 117 | | 118 | | | 1 | | 5 9.8 9.8 |
| 11 | 9.03226 | | 9.03479 | | 0.96521 | 9.99747 | | 49 | 6 11.8 11.7 |
| | | 116 | | 118 | | | 2 | | 7 13.8 13.7 |
| 12 | 9.03342 | | 9.03597 | | 0.96403 | 9.99745 | | 48 | 8 15.7 15.6 |
| | | 116 | | 117 | | | 1 | | 9 17.7 17.6 |
| 13 | 9.03458 | | 9.03714 | | 0.96286 | 9.99744 | | 47 | 10 19.7 19.5 |
| | | 116 | | 118 | | | 2 | | 20 39.3 39.0 |
| 14 | 9.03574 | | 9.03832 | | 0.96168 | 9.99742 | | 46 | 30 59.0 58.5 |
| | | 116 | | 116 | | | 1 | | 40 78.7 78.0 |
| **15** | **9.03690** | | **9.03948** | | **0.96052** | **9.99741** | | **45** | 50 98.3 97.5 |
| | | 115 | | 117 | | | 1 | | |
| 16 | 9.03805 | | 9.04065 | | 0.95935 | 9.99740 | | 44 | 116 115 |
| | | 115 | | 116 | | | 2 | | 1 1.9 1.9 |
| 17 | 9.03920 | | 9.04181 | | 0.95819 | 9.99738 | | 43 | 2 3.9 3.8 |
| | | 114 | | 116 | | | 1 | | 3 5.8 5.8 |
| 18 | 9.04034 | | 9.04297 | | 0.95703 | 9.99737 | | 42 | 4 7.7 7.7 |
| | | 115 | | 116 | | | 1 | | 5 9.7 9.6 |
| 19 | 9.04149 | | 9.04413 | | 0.95587 | 9.99736 | | 41 | 6 11.6 11.5 |
| | | 113 | | 115 | | | 2 | | 7 13.5 13.4 |
| **20** | **9.04262** | | **9.04528** | | **0.95472** | **9.99734** | | **40** | 8 15.5 15.3 |
| | | 114 | | 115 | | | 1 | | 9 17.4 17.3 |
| 21 | 9.04376 | | 9.04643 | | 0.95357 | 9.99733 | | 39 | 10 19.3 19.2 |
| | | 114 | | 115 | | | 2 | | 20 38.7 38.3 |
| 22 | 9.04490 | | 9.04758 | | 0.95242 | 9.99731 | | 38 | 30 58.0 57.5 |
| | | 113 | | 115 | | | 1 | | 40 77.3 76.7 |
| 23 | 9.04603 | | 9.04873 | | 0.95127 | 9.99730 | | 37 | 50 96.7 95.8 |
| | | 112 | | 114 | | | 2 | | |
| 24 | 9.04715 | | 9.04987 | | 0.95013 | 9.99728 | | 36 | 114 113 |
| | | 113 | | 114 | | | 1 | | 1 1.9 1.9 |
| **25** | **9.04828** | | **9.05101** | | **0.94899** | **9.99727** | | **35** | 2 3.8 3.8 |
| | | 112 | | 113 | | | 1 | | 3 5.7 5.7 |
| 26 | 9.04940 | | 9.05214 | | 0.94786 | 9.99726 | | 34 | 4 7.6 7.5 |
| | | 112 | | 114 | | | 2 | | 5 9.5 9.4 |
| 27 | 9.05052 | | 9.05328 | | 0.94672 | 9.99724 | | 33 | 6 11.4 11.3 |
| | | 112 | | 113 | | | 1 | | 7 13.3 13.2 |
| 28 | 9.05164 | | 9.05441 | | 0.94559 | 9.99723 | | 32 | 8 15.2 15.1 |
| | | 111 | | 112 | | | 2 | | 9 17.1 17.0 |
| 29 | 9.05275 | | 9.05553 | | 0.94447 | 9.99721 | | 31 | 10 19.0 18.8 |
| | | 111 | | 113 | | | 1 | | 20 38.0 37.7 |
| **30** | **9.05386** | | **9.05666** | | **0.94334** | **9.99720** | | **30** | 30 57.0 56.5 |
| | | 111 | | 112 | | | 2 | | 40 76.0 75.3 |
| | | | | | | | | | 50 95.0 94.2 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 83°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d |
|---|---|---|---|---|---|---|---|
| **30** | **9.05386** | | **9.05666** | | **0.94334** | **9.99720** | |
| | | 111 | | 112 | | | 2 |
| 31 | 9.05497 | | 9.05778 | | 0.94222 | 9.99718 | |
| | | 110 | | 112 | | | 1 |
| 32 | 9.05607 | | 9.05890 | | 0.94110 | 9.99717 | |
| | | 110 | | 112 | | | 1 |
| 33 | 9.05717 | | 9.06002 | | 0.93998 | 9.99716 | |
| | | 110 | | 111 | | | 2 |
| 34 | 9.05827 | | 9.06113 | | 0.93887 | 9.99714 | |
| | | 110 | | 111 | | | 1 |
| **35** | **9.05937** | | **9.06224** | | **0.93776** | **9.99713** | |
| | | 109 | | 111 | | | 2 |
| 36 | 9.06046 | | 9.06335 | | 0.93665 | 9.99711 | |
| | | 109 | | 110 | | | 1 |
| 37 | 9.06155 | | 9.06445 | | 0.93555 | 9.99710 | |
| | | 109 | | 111 | | | 2 |
| 38 | 9.06264 | 108 | 9.06556 | 110 | 0.93444 | 9.99708 | |
| | | | | | | | 1 |
| 39 | 9.06372 | | 9.06666 | | 0.93334 | 9.99707 | |
| | | 109 | | 109 | | | 2 |
| **40** | **9.06481** | | **9.06775** | | **0.93225** | **9.99705** | |
| | | 108 | | 110 | | | 1 |
| 41 | 9.06589 | | 9.06885 | | 0.93115 | 9.99704 | |
| | | 107 | | 109 | | | 2 |
| 42 | 9.06696 | | 9.06994 | | 0.93006 | 9.99702 | |
| | | 108 | | 109 | | | 1 |
| 43 | 9.06804 | | 9.07103 | | 0.92897 | 9.99701 | |
| | | 107 | | 108 | | | 2 |
| 44 | 9.06911 | | 9.07211 | | 0.92789 | 9.99699 | |
| | | 107 | | 109 | | | 1 |
| **45** | **9.07018** | | **9.07320** | | **0.92680** | **9.99698** | |
| | | 106 | | 108 | | | 2 |
| 46 | 9.07124 | | 9.07428 | | 0.92572 | 9.99696 | |
| | | 107 | | 108 | | | 1 |
| 47 | 9.07231 | | 9.07536 | | 0.92464 | 9.99695 | |
| | | 106 | | 107 | | | 2 |
| 48 | 9.07337 | | 9.07643 | | 0.92357 | 9.99693 | |
| | | 105 | | 108 | | | 1 |
| 49 | 9.07442 | | 9.07751 | | 0.92249 | 9.99692 | |
| | | 106 | | 107 | | | 2 |
| **50** | **9.07548** | | **9.07858** | | **0.92142** | **9.99690** | |
| | | 105 | | 106 | | | 1 |
| 51 | 9.07653 | | 9.07964 | | 0.92036 | 9.99689 | |
| | | 105 | | 107 | | | 2 |
| 52 | 9.07758 | | 9.08071 | | 0.91929 | 9.99687 | |
| | | 105 | | 106 | | | 1 |
| 53 | 9.07863 | | 9.08177 | | 0.91823 | 9.99686 | |
| | | 105 | | 106 | | | 2 |
| 54 | 9.07968 | | 9.08283 | | 0.91717 | 9.99684 | |
| | | 104 | | 106 | | | 1 |
| **55** | **9.08072** | | **9.08389** | | **0.91611** | **9.99683** | |
| | | 104 | | 106 | | | 2 |
| 56 | 9.08176 | | 9.08495 | | 0.91505 | 9.99681 | |
| | | 104 | | 105 | | | 1 |
| 57 | 9.08280 | | 9.08600 | | 0.91400 | 9.99680 | |
| | | 103 | | 105 | | | 2 |
| 58 | 9. 08383 | | 9. 08705 | | 0. 91295 | 9. 99678 | |
| | | 103 | | 105 | | | 1 |
| 59 | 9.08486 | | 9.08810 | | 0.91190 | 9.99677 | |
| | | 103 | | 104 | | | 2 |
| **60** | **9.08589** | | **9.08914** | | **0.91086** | **9.99675** | |
| | | 103 | | 105 | | | 1 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d |

| ↑ | PP. Seconds | |
|---|---|---|
| 30 | 112 | 111 |
| 29 | 1 1.9 | 1.9 |
| | 2 3.7 | 3.7 |
| | 3 5.6 | 5.6 |
| 28 | 4 7.5 | 7.4 |
| | 5 9.3 | 9.3 |
| 27 | 6 11.2 | 11.1 |
| | 7 13.1 | 13.0 |
| 26 | 8 14.9 | 14.8 |
| | 9 16.8 | 16.7 |
| 25 | 10 18.7 | 18.5 |
| | 20 37.3 | 37.0 |
| 24 | 30 56.0 | 55.5 |
| | 40 74.7 | 74.0 |
| 23 | 50 93.3 | 92.5 |
| 22 | 110 | 109 |
| 21 | 1 1.8 | 1.8 |
| | 2 3.7 | 3.6 |
| | 3 5.5 | 5.5 |
| 20 | 4 7.3 | 7.3 |
| | 5 9.2 | 9.1 |
| 19 | 6 11.0 | 10.9 |
| | 7 12.8 | 12.7 |
| 18 | 8 14.7 | 14.5 |
| | 9 16.5 | 16.4 |
| 17 | 10 18.3 | 18.2 |
| | 20 36.7 | 36.3 |
| 16 | 30 55.0 | 54.5 |
| | 40 73.3 | 72.7 |
| 15 | 50 91.7 | 90.8 |
| | 108 | 107 |
| 14 | 1 1.8 | 1.8 |
| | 2 3.6 | 3.6 |
| 13 | 3 5.4 | 5.4 |
| | 4 7.2 | 7.1 |
| 12 | 5 9.0 | 8.9 |
| | 6 10.8 | 10.7 |
| 11 | 7 12.6 | 12.5 |
| | 8 14.4 | 14.3 |
| 10 | 9 16.2 | 16.1 |
| | 10 18.0 | 17.8 |
| 9 | 20 36.0 | 35.7 |
| | 30 54.0 | 53.5 |
| 8 | 40 72.0 | 71.3 |
| | 50 90.0 | 89.2 |
| 7 | | |
| 6 | 106 | 105 |
| | 1 1.8 | 1.8 |
| | 2 3.5 | 3.5 |
| 5 | 3 5.3 | 5.3 |
| | 4 7.1 | 7.0 |
| | 5 8.8 | 8.8 |
| 4 | 6 10.6 | 10.5 |
| 3 | 7 12.4 | 12.3 |
| | 8 14.1 | 14.0 |
| 2 | 9 15.9 | 15.8 |
| | 10 17.7 | 17.5 |
| 1 | 20 35.3 | 35.0 |
| | 30 53.0 | 52.5 |
| | 40 70.7 | 70.0 |
| 0 | 50 88.3 | 87.5 |
| Min. | PP. | |

# 7°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.08589 | 103 | 9.08914 | 105 | 0.91086 | 9.99675 | 1 | 60 |
| 1 | 9.08692 | 103 | 9.09019 | 104 | 0.90981 | 9.99674 | 2 | 59 |
| 2 | 9.08795 | 102 | 9.09123 | 104 | 0.90877 | 9.99672 | 2 | 58 |
| 3 | 9.08897 | 102 | 9.09227 | 103 | 0.90773 | 9.99670 | 1 | 57 |
| 4 | 9.08999 | 102 | 9.09330 | 104 | 0.90670 | 9.99669 | 2 | 56 |
| 5 | 9.09101 | 101 | 9.09434 | 103 | 0.90566 | 9.99667 | 1 | 55 |
| 6 | 9.09202 | 102 | 9.09537 | 103 | 0.90463 | 9.99666 | 2 | 54 |
| 7 | 9.09304 | 101 | 9.09640 | 102 | 0.90360 | 9.99664 | 1 | 53 |
| 8 | 9.09405 | 101 | 9.09742 | 103 | 0.90258 | 9.99663 | 2 | 52 |
| 9 | 9.09506 | 100 | 9.09845 | 102 | 0.90155 | 9.99661 | 2 | 51 |
| 10 | 9.09606 | 101 | 9.09947 | 102 | 0.90053 | 9.99659 | 1 | 50 |
| 11 | 9.09707 | 100 | 9.10049 | 101 | 0.89951 | 9.99658 | 2 | 49 |
| 12 | 9.09807 | 100 | 9.10150 | 102 | 0.89850 | 9.99656 | 1 | 48 |
| 13 | 9.09907 | 99 | 9.10252 | 101 | 0.89748 | 9.99655 | 2 | 47 |
| 14 | 9.10006 | 100 | 9.10353 | 101 | 0.89647 | 9.99653 | 2 | 46 |
| 15 | 9.10106 | 99 | 9.10454 | 101 | 0.89546 | 9.99651 | 1 | 45 |
| 16 | 9.10205 | 99 | 9.10555 | 101 | 0.89445 | 9.99650 | 2 | 44 |
| 17 | 9.10304 | 98 | 9.10656 | 100 | 0.89344 | 9.99648 | 1 | 43 |
| 18 | 9.10402 | 99 | 9.10756 | 100 | 0.89244 | 9.99647 | 2 | 42 |
| 19 | 9.10501 | 98 | 9.10856 | 100 | 0.89144 | 9.99645 | 2 | 41 |
| 20 | 9.10599 | 98 | 9.10956 | 100 | 0.89044 | 9.99643 | 1 | 40 |
| 21 | 9.10697 | 98 | 9.11056 | 99 | 0.88944 | 9.99642 | 2 | 39 |
| 22 | 9.10795 | 98 | 9.11155 | 99 | 0.88845 | 9.99640 | 2 | 38 |
| 23 | 9.10893 | 97 | 9.11254 | 99 | 0.88746 | 9.99638 | 1 | 37 |
| 24 | 9.10990 | 97 | 9.11353 | 99 | 0.88647 | 9.99637 | 2 | 36 |
| 25 | 9.11087 | 97 | 9.11452 | 99 | 0.88548 | 9.99635 | 2 | 35 |
| 26 | 9.11184 | 97 | 9.11551 | 98 | 0.88449 | 9.99633 | 1 | 34 |
| 27 | 9.11281 | 96 | 9.11649 | 98 | 0.88351 | 9.99632 | 2 | 33 |
| 28 | 9.11377 | 97 | 9.11747 | 98 | 0.88253 | 9.99630 | 1 | 32 |
| 29 | 9.11474 | 96 | 9.11845 | 98 | 0.88155 | 9.99629 | 2 | 31 |
| 30 | 9.11570 | 96 | 9.11943 | 97 | 0.88057 | 9.99627 | 2 | 30 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 105 | 104 |
|---|---|---|
| 1 | 1.8 | 1.7 |
| 2 | 3.5 | 3.5 |
| 3 | 5.3 | 5.2 |
| 4 | 7.0 | 6.9 |
| 5 | 8.8 | 8.7 |
| 6 | 10.5 | 10.4 |
| 7 | 12.3 | 12.1 |
| 8 | 14.0 | 13.9 |
| 9 | 15.8 | 15.6 |
| 10 | 17.5 | 17.3 |
| 20 | 35.0 | 34.7 |
| 30 | 52.5 | 52.0 |
| 40 | 70.0 | 69.3 |
| 50 | 87.5 | 86.7 |

| | 103 | 102 |
|---|---|---|
| 1 | 1.7 | 1.7 |
| 2 | 3.4 | 3.4 |
| 3 | 5.2 | 5.1 |
| 4 | 6.9 | 6.8 |
| 5 | 8.6 | 8.5 |
| 6 | 10.3 | 10.2 |
| 7 | 12.0 | 11.9 |
| 8 | 13.7 | 13.6 |
| 9 | 15.5 | 15.3 |
| 10 | 17.2 | 17.0 |
| 20 | 34.3 | 34.0 |
| 30 | 51.5 | 51.0 |
| 40 | 68.7 | 68.0 |
| 50 | 85.8 | 85.0 |

| | 101 | 100 |
|---|---|---|
| 1 | 1.7 | 1.7 |
| 2 | 3.4 | 3.3 |
| 3 | 5.1 | 5.0 |
| 4 | 6.7 | 6.7 |
| 5 | 8.4 | 8.3 |
| 6 | 10.1 | 10.0 |
| 7 | 11.8 | 11.7 |
| 8 | 13.5 | 13.3 |
| 9 | 15.2 | 15.0 |
| 10 | 16.8 | 16.7 |
| 20 | 33.7 | 33.3 |
| 30 | 50.5 | 50.0 |
| 40 | 67.3 | 66.7 |
| 50 | 84.2 | 83.3 |

| | 99 | 98 |
|---|---|---|
| 1 | 1.7 | 1.6 |
| 2 | 3.3 | 3.3 |
| 3 | 5.0 | 4.9 |
| 4 | 6.6 | 6.5 |
| 5 | 8.3 | 8.2 |
| 6 | 9.9 | 9.8 |
| 7 | 11.6 | 11.4 |
| 8 | 13.2 | 13.1 |
| 9 | 14.9 | 14.7 |
| 10 | 16.5 | 16.3 |
| 20 | 33.0 | 32.7 |
| 30 | 49.5 | 49.0 |
| 40 | 66.0 | 65.3 |
| 50 | 82.5 | 81.7 |

PP.

# 82°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.11570** | | **9.11943** | | **0.88057** | **9.99627** | | **30** | 97 96 |
| | | 96 | | 97 | | | 2 | | 1 1.6 1.6 |
| 31 | 9.11666 | | 9.12040 | | 0.87960 | 9.99625 | | 29 | 2 3.2 3.2 |
| | | 95 | | 98 | | | 1 | | 3 4.9 4.8 |
| 32 | 9.11761 | | 9.12138 | | 0.87862 | 9.99624 | | 28 | 4 6.5 6.4 |
| | | 96 | | 97 | | | 2 | | 5 8.1 8.0 |
| 33 | 9.11857 | | 9.12235 | | 0.87765 | 9.99622 | | 27 | 6 9.7 9.6 |
| | | 95 | | 97 | | | 2 | | 7 11.3 11.2 |
| 34 | 9.11952 | | 9.12332 | | 0.87668 | 9.99620 | | 26 | 8 12.9 12.8 |
| | | 95 | | 96 | | | 2 | | 9 14.6 14.4 |
| **35** | **9.12047** | | **9.12428** | | **0.87572** | **9.99618** | | **25** | 10 16.2 16.0 |
| | | 95 | | 97 | | | 1 | | 20 32.3 32.0 |
| 36 | 9.12142 | | 9.12525 | | 0.87475 | 9.99617 | | 24 | 30 48.5 48.0 |
| | | 94 | | 96 | | | 2 | | 40 64.7 64.0 |
| 37 | 9.12236 | | 9.12621 | | 0.87379 | 9.99615 | | 23 | 50 80.8 80.0 |
| | | 95 | | 96 | | | 2 | | |
| 38 | 9.12331 | | 9.12717 | | 0.87283 | 9.99613 | | 22 | 95 94 |
| | | 94 | | 96 | | | 1 | | 1 1.6 1.6 |
| 39 | 9.12425 | | 9.12813 | | 0.87187 | 9 99612 | | 21 | 2 3.2 3.1 |
| | | 94 | | 96 | | | 2 | | 3 4.8 4.7 |
| **40** | **9.12519** | | **9.12909** | | **0.87091** | **9.99610** | | **20** | 4 6.3 6.3 |
| | | 93 | | 95 | | | 2 | | 5 7.9 7.8 |
| 41 | 9.12612 | | 9.13004 | | 0.86996 | 9.99608 | | 19 | 6 9.5 9.4 |
| | | 94 | | 95 | | | 1 | | 7 11.1 11.0 |
| 42 | 9.12706 | | 9.13099 | | 0.86901 | 9.99607 | | 18 | 8 12.7 12.5 |
| | | 93 | | 95 | | | 2 | | 9 14.3 14.1 |
| 43 | 9.12799 | | 9.13194 | | 0.86806 | 9.99605 | | 17 | 10 15.8 15.7 |
| | | 93 | | 95 | | | 2 | | 20 31.7 31.3 |
| 44 | 9.12892 | | 9.13289 | | 0.86711 | 9.99603 | | 16 | 30 47.5 47.0 |
| | | 93 | | 95 | | | 2 | | 40 63.3 62.7 |
| **45** | **9.12985** | | **9.13384** | | **0.86616** | **9.99601** | | **15** | 50 79.2 78.3 |
| | | 93 | | 94 | | | 1 | | |
| 46 | 9.13078 | | 9.13478 | | 0.86522 | 9.99600 | | 14 | 93 92 |
| | | 93 | | 95 | | | 2 | | 1 1.6 1.5 |
| 47 | 9.13171 | | 9.13573 | | 0.86427 | 9.99598 | | 13 | 2 3.1 3.1 |
| | | 92 | | 94 | | | 2 | | 3 4.7 4.6 |
| 48 | 9.13263 | | 9.13667 | | 0.86333 | 9.99596 | | 12 | 4 6.2 6.1 |
| | | 92 | | 94 | | | 1 | | 5 7.8 7.7 |
| 49 | 9.13355 | | 9.13761 | | 0.86239 | 9.99595 | | 11 | 6 9.3 9.2 |
| | | 92 | | 93 | | | 2 | | 7 10.9 10.7 |
| **50** | **9.13447** | | **9.13854** | | **0.86146** | **9.99593** | | **10** | 8 12.4 12.3 |
| | | 92 | | 94 | | | 2 | | 9 14.0 13.8 |
| 51 | 9.13539 | | 9.13948 | | 0.86052 | 9.99591 | | 9 | 10 15.5 15.3 |
| | | 91 | | 93 | | | 2 | | 20 31.0 30.7 |
| 52 | 9.13630 | | 9.14041 | | 0.85959 | 9.99589 | | 8 | 30 46.5 46.0 |
| | | 92 | | 93 | | | 1 | | 40 62.0 61.3 |
| 53 | 9.13722 | | 9.14134 | | 0.85866 | 9.99588 | | 7 | 50 77.5 76.7 |
| | | 91 | | 93 | | | 2 | | |
| 54 | 9.13813 | | 9.14227 | | 0.85773 | 9.99586 | | 6 | 91 90 |
| | | 91 | | 93 | | | 2 | | 1 1.5 1.5 |
| **55** | **9.13904** | | **9.14320** | | **0.85680** | **9.99584** | | **5** | 2 3.0 3.0 |
| | | 90 | | 92 | | | 2 | | 3 4.6 4.5 |
| 56 | 9.13994 | | 9.14412 | | 0.85588 | 9.99582 | | 4 | 4 6.1 6.0 |
| | | 91 | | 92 | | | 1 | | 5 7.6 7.5 |
| 57 | 9.14085 | | 9.14504 | | 0.85496 | 9.99581 | | 3 | 6 9.1 9.0 |
| | | 90 | | 93 | | | 2 | | 7 10.6 10.5 |
| 58 | 9.14175 | | 9.14597 | | 0.85403 | 9.99579 | | 2 | 8 12.1 12.0 |
| | | 91 | | 91 | | | 2 | | 9 13.7 13.5 |
| 59 | 9.14266 | | 9.14688 | | 0.85312 | 9.99577 | | 1 | 10 15.2 15.0 |
| | | 90 | | 92 | | | 2 | | 20 30.3 30.0 |
| **60** | **9.14356** | | **9.14780** | | **0.85220** | **9.99575** | | **0** | 30 45.5 45.0 |
| | | 89 | | 92 | | | 1 | | 40 60.7 60.0 |
| | | | | | | | | | 50 75.8 75.0 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 8°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.14356 | | 9.14780 | | 0.85220 | 9.99575 | | 60 | |
| | | 89 | | 92 | | | 1 | | |
| 1 | 9.14445 | | 9.14872 | | 0.85128 | 9.99574 | | 59 | |
| | | 90 | | 91 | | | 2 | | |
| 2 | 9.14535 | | 9.14963 | | 0.85037 | 9.99572 | | 58 | |
| | | 89 | | 91 | | | 2 | | |
| 3 | 9.14624 | | 9.15054 | | 0.84946 | 9.99570 | | 57 | 92 91 |
| | | 90 | | 91 | | | 2 | | 1 1.5 1.5 |
| 4 | 9.14714 | | 9.15145 | | 0.84855 | 9.99568 | | 56 | 2 3.1 3.0 |
| | | 89 | | | | | | | 3 4.6 4.6 |
| | | | | 91 | | | 2 | | 4 6.1 6.1 |
| 5 | 9.14803 | | 9.15236 | | 0.84764 | 9.99566 | | 55 | 5 7.7 7.6 |
| | | 88 | | 91 | | | 1 | | 6 9.2 9.1 |
| 6 | 9.14891 | | 9.15327 | | 0.84673 | 9.99565 | | 54 | 7 10.7 10.6 |
| | | 89 | | 90 | | | 2 | | 8 12.3 12.1 |
| 7 | 9.14980 | | 9.15417 | | 0.84583 | 9.99563 | | 53 | 9 13.8 13.7 |
| | | 89 | | 91 | | | 2 | | 10 15.3 15.2 |
| 8 | 9.15069 | | 9.15508 | | 0.84492 | 9.99561 | | 52 | 20 30.7 30.3 |
| | | 88 | | 90 | | | 2 | | 30 46.0 45.5 |
| 9 | 9.15157 | | 9.15598 | | 0.84402 | 9.99559 | | 51 | 40 61.3 60.7 |
| | | 88 | | 90 | | | 2 | | 50 76.7 75.8 |
| 10 | 9.15245 | | 9.15688 | | 0.84312 | 9.99557 | | 50 | |
| | | 88 | | 89 | | | 1 | | |
| 11 | 9.15333 | | 9.15777 | | 0.84223 | 9.99556 | | 49 | |
| | | 88 | | 90 | | | 2 | | |
| 12 | 9.15421 | | 9.15867 | | 0.84133 | 9.99554 | | 48 | 90 89 |
| | | 87 | | 89 | | | 2 | | 1 1.5 1.5 |
| 13 | 9.15508 | | 9.15956 | | 0.84044 | 9.99552 | | 47 | 2 3.0 3.0 |
| | | 88 | | 90 | | | 2 | | 3 4.5 4.5 |
| 14 | 9.15596 | | 9.16046 | | 0.83954 | 9.99550 | | 46 | 4 6.0 5.9 |
| | | 87 | | 89 | | | 2 | | 5 7.5 7.4 |
| 15 | 9.15683 | | 9.16135 | | 0.83865 | 9.99548 | | 45 | 6 9.0 8.9 |
| | | 87 | | 89 | | | 2 | | 7 10.5 10.4 |
| 16 | 9.15770 | | 9.16224 | | 0.83776 | 9.99546 | | 44 | 8 12 0 11.9 |
| | | 87 | | 88 | | | 1 | | 9 13.5 13.4 |
| 17 | 9.15857 | | 9.16312 | | 0.83688 | 9.99545 | | 43 | 10 15.0 14.8 |
| | | 87 | | 89 | | | 2 | | 20 30.0 29.7 |
| 18 | 9.15944 | | 9.16401 | | 0.83599 | 9.99543 | | 42 | 30 45.0 44.5 |
| | | 86 | | 88 | | | 2 | | 40 60.0 59.3 |
| 19 | 9.16030 | | 9.16489 | | 0.83511 | 9.99541 | | 41 | 50 75.0 74.2 |
| | | 86 | | 88 | | | 2 | | |
| 20 | 9.16116 | | 9.16577 | | 0.83423 | 9.99539 | | 40 | |
| | | 87 | | 88 | | | 2 | | |
| 21 | 9.16203 | | 9.16665 | | 0.83335 | 9.99537 | | 39 | 88 87 |
| | | 86 | | 88 | | | 2 | | 1 1.5 1.5 |
| 22 | 9.16289 | | 9.16753 | | 0.83247 | 9.99535 | | 38 | 2 2.9 2.9 |
| | | 85 | | 88 | | | 2 | | 3 4.4 4.4 |
| 23 | 9.16374 | | 9.16841 | | 0.83159 | 9.99533 | | 37 | 4 5.9 5.8 |
| | | 86 | | 87 | | | 1 | | 5 7.3 7.3 |
| 24 | 9.16460 | | 9.16928 | | 0.83072 | 9.99532 | | 36 | 6 8.8 8.7 |
| | | 85 | | 88 | | | 2 | | 7 10.3 10.2 |
| 25 | 9.16545 | | 9.17016 | | 0.82984 | 9.99530 | | 35 | 8 11.7 11.6 |
| | | 86 | | 87 | | | 2 | | 9 13.2 13.1 |
| 26 | 9.16631 | | 9.17103 | | 0.82897 | 9.99528 | | 34 | 10 14.7 14.5 |
| | | 85 | | 87 | | | 2 | | 20 29.3 29.0 |
| 27 | 9.16716 | | 9.17190 | | 0.82810 | 9.99526 | | 33 | 30 44.0 43.5 |
| | | 85 | | 87 | | | 2 | | 40 58.7 58.0 |
| 28 | 9.16801 | | 9.17277 | | 0.82723 | 9.99524 | | 32 | 50 73.3 72.5 |
| | | 85 | | 86 | | | 2 | | |
| 29 | 9.16886 | | 9.17363 | | 0.82637 | 9.99522 | | 31 | |
| | | 84 | | 87 | | | 2 | | |
| 30 | 9.16970 | | 9.17450 | | 0.82550 | 9.99520 | | 30 | |
| | | 85 | | 86 | | | 2 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 81°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d |
|---|---|---|---|---|---|---|---|
| **30** | **9.16970** | | **9.17450** | | **0.82550** | **9.99520** | |
| | | 85 | | 86 | | | 2 |
| 31 | 9.17055 | | 9.17536 | | 0.82464 | 9.99518 | |
| | | 84 | | 86 | | | 1 |
| 32 | 9.17139 | | 9.17622 | | 0.82378 | 9.99517 | |
| | | 84 | | 86 | | | 2 |
| 33 | 9.17223 | | 9.17708 | | 0.82292 | 9.99515 | |
| | | 84 | | 86 | | | 2 |
| 34 | 9.17307 | | 9.17794 | | 0.82206 | 9.99513 | |
| | | 84 | | 86 | | | 2 |
| **35** | **9.17391** | | **9.17880** | | **0.82120** | **9.99511** | |
| | | 83 | | 85 | | | 2 |
| 36 | 9.17474 | | 9.17965 | | 0.82035 | 9.99509 | |
| | | 84 | | 86 | | | 2 |
| 37 | 9.17558 | | 9.18051 | | 0.81949 | 9.99507 | |
| | | 83 | | 85 | | | 2 |
| 38 | 9.17641 | | 9.18136 | | 0.81864 | 9.99505 | |
| | | 83 | | 85 | | | 2 |
| 39 | 9.17724 | | 9.18221 | | 0.81779 | 9.99503 | |
| | | 83 | | 85 | | | 2 |
| **40** | **9.17807** | | **9.18306** | | **0.81694** | **9.99501** | |
| | | 83 | | 85 | | | 2 |
| 41 | 9.17890 | | 9.18391 | | 0.81609 | 9.99499 | |
| | | 83 | | 84 | | | 2 |
| 42 | 9.17973 | | 9.18475 | | 0.81525 | 9.99497 | |
| | | 82 | | 85 | | | 2 |
| 43 | 9.18055 | | 9.18560 | | 0.81440 | 9.99495 | |
| | | 82 | | 84 | | | 1 |
| 44 | 9.18137 | | 9.18644 | | 0.81356 | 9.99494 | |
| | | 83 | | 84 | | | 2 |
| **45** | **9.18220** | | **9.18728** | | **0.81272** | **9.99492** | |
| | | 82 | | 84 | | | 2 |
| 46 | 9.18302 | | 9.18812 | | 0 81188 | 9.99490 | |
| | | 81 | | 84 | | | 2 |
| 47 | 9.18383 | | 9.18896 | | 0.81104 | 9.99488 | |
| | | 82 | | 83 | | | 2 |
| 48 | 9.18465 | | 9.18979 | | 0.81021 | 9.99486 | |
| | | 82 | | 84 | | | 2 |
| 49 | 9.18547 | | 9.19063 | | 0.80937 | 9.99484 | |
| | | 81 | | 83 | | | 2 |
| **50** | **9.18628** | | **9.19146** | | **0.80854** | **9.99482** | |
| | | 81 | | 83 | | | 2 |
| 51 | 9.18709 | | 9.19229 | | 0.80771 | 9.99480 | |
| | | 81 | | 83 | | | 2 |
| 52 | 9.18790 | | 9.19312 | | 0.80688 | 9.99478 | |
| | | 81 | | 83 | | | 2 |
| 53 | 9.18871 | | 9.19395 | | 0.80605 | 9.99476 | |
| | | 81 | | 83 | | | 2 |
| 54 | 9.18952 | | 9.19478 | | 0.80522 | 9.99474 | |
| | | 81 | | 83 | | | 2 |
| **55** | **9.19033** | | **9.19561** | | **0.80439** | **9.99472** | |
| | | 80 | | 82 | | | 2 |
| 56 | 9.19113 | | 9.19643 | | 0.80357 | 9.99470 | |
| | | 80 | | 82 | | | 2 |
| 57 | 9.19193 | | 9.19725 | | 0.80275 | 9.99468 | |
| | | 80 | | 82 | | | 2 |
| 58 | 9.19273 | | 9.19807 | | 0.80193 | 9.99466 | |
| | | 80 | | 82 | | | 2 |
| 59 | 9.19353 | | 9.19889 | | 0.80111 | 9.99464 | |
| | | 80 | | 82 | | | 2 |
| **60** | **9.19433** | | **9.19971** | | **0.80029** | **9.99462** | |
| | | 80 | | 82 | | | 2 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d |

| ↑ | PP. Seconds | | |
|---|---|---|---|
| **30** | | **85** | **85** |
| | 1 | 1.4 | 1.4 |
| | 2 | 2.9 | 2.8 |
| 29 | 3 | 4.3 | 4.3 |
| 28 | 4 | 5.7 | 5.7 |
| 27 | 5 | 7.2 | 7.1 |
| 26 | 6 | 8.6 | 8.5 |
| | 7 | 10.0 | 9.9 |
| | 8 | 11.5 | 11.3 |
| | 9 | 12.9 | 12.8 |
| **25** | 10 | 14.3 | 14.2 |
| | 20 | 28.7 | 28.3 |
| 24 | 30 | 43.0 | 42.5 |
| 23 | 40 | 57.3 | 56.7 |
| | 50 | 71.7 | 70.8 |
| 22 | | **84** | **83** |
| 21 | 1 | 1.4 | 1.4 |
| | 2 | 2.8 | 2.8 |
| | 3 | 4.2 | 4.2 |
| **20** | 4 | 5.6 | 5.5 |
| | 5 | 7.0 | 6.9 |
| | 6 | 8.4 | 8.3 |
| 19 | 7 | 9.8 | 9.7 |
| 18 | 8 | 11.2 | 11.1 |
| | 9 | 12.6 | 12.5 |
| 17 | 10 | 14.0 | 13.8 |
| | 20 | 28.0 | 27.7 |
| 16 | 30 | 42.0 | 41.5 |
| | 40 | 56.0 | 55.3 |
| **15** | 50 | 70.0 | 69.2 |
| | | **82** | **81** |
| 14 | 1 | 1.4 | 1.4 |
| | 2 | 2.7 | 2.7 |
| 13 | 3 | 4.1 | 4.1 |
| 12 | 4 | 5.5 | 5.4 |
| 11 | 5 | 6.8 | 6.8 |
| | 6 | 8.2 | 8.1 |
| | 7 | 9.6 | 9.5 |
| **10** | 8 | 10.9 | 10.8 |
| | 9 | 12.3 | 12.2 |
| | 10 | 13.7 | 13.5 |
| 9 | 20 | 27.3 | 27.0 |
| 8 | 30 | 41.0 | 40.5 |
| 7 | 40 | 54.7 | 54.0 |
| | 50 | 68.3 | 67.5 |
| 6 | | **80** | |
| | 1 | 1.3 | |
| | 2 | 2.7 | |
| **5** | 3 | 4.0 | |
| | 4 | 5.3 | |
| 4 | 5 | 6.7 | |
| | 6 | 8.0 | |
| 3 | 7 | 9.3 | |
| | 8 | 10.7 | |
| 2 | 9 | 12.0 | |
| | 10 | 13.3 | |
| 1 | 20 | 26.7 | |
| | 30 | 40.0 | |
| **0** | 40 | 53.3 | |
| | 50 | 66.7 | |
| Min. | PP. | | |

# 9°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.19433 | | 9.19971 | | 0.80029 | 9.99462 | | 60 | |
| | | 80 | | 82 | | | 2 | | |
| 1 | 9.19513 | | 9.20053 | | 0.79947 | 9.99460 | | 59 | |
| | | 79 | | 81 | | | 2 | | |
| 2 | 9.19592 | | 9.20134 | | 0.79866 | 9.99458 | | 58 | |
| | | 80 | | 82 | | | 2 | | 82 81 |
| 3 | 9.19672 | | 9.20216 | | 0.79784 | 9.99456 | | 57 | 1 1.4 1.4 |
| | | 79 | | 81 | | | 2 | | 2 2.7 2.7 |
| 4 | 9.19751 | | 9.20297 | | 0.79703 | 9.99454 | | 56 | 3 4.1 4.1 |
| | | 79 | | 81 | | | 2 | | 4 5.5 5.4 |
| 5 | 9.19830 | | 9.20378 | | 0.79622 | 9.99452 | | 55 | 5 6.8 6.8 |
| | | 79 | | 81 | | | 2 | | 6 8.2 8.1 |
| | | | | | | | | | 7 9.6 9.5 |
| 6 | 9.19909 | | 9.20459 | | 0.79541 | 9.99450 | | 54 | 8 10.9 10.8 |
| | | 79 | | 81 | | | 2 | | 9 12.3 12.2 |
| 7 | 9.19988 | | 9.20540 | | 0.79460 | 9.99448 | | 53 | 10 13.7 13.5 |
| | | 79 | | 81 | | | 2 | | 20 27.3 27.0 |
| 8 | 9.20067 | | 9.20621 | | 0.79379 | 9.99446 | | 52 | 30 41.0 40.5 |
| | | 78 | | 80 | | | 2 | | 40 54.7 54.0 |
| 9 | 9.20145 | | 9.20701 | | 0.79299 | 9.99444 | | 51 | 50 68.3 67.5 |
| | | 78 | | 81 | | | 2 | | |
| 10 | 9.20223 | | 9.20782 | | 0.79218 | 9.99442 | | 50 | |
| | | 79 | | 80 | | | 2 | | |
| 11 | 9.20302 | | 9.20862 | | 0.79138 | 9.99440 | | 49 | |
| | | 78 | | 80 | | | 2 | | |
| 12 | 9.20380 | | 9.20942 | | 0.79058 | 9.99438 | | 48 | 80 79 |
| | | 78 | | 80 | | | 2 | | 1 1.3 1.3 |
| 13 | 9.20458 | | 9.21022 | | 0.78978 | 9.99436 | | 47 | 2 2.7 2.6 |
| | | 77 | | 80 | | | 2 | | 3 4.0 4.0 |
| 14 | 9.20535 | | 9.21102 | | 0.78898 | 9.99434 | | 46 | 4 5.3 5.3 |
| | | 78 | | 80 | | | 2 | | 5 6.7 6.6 |
| 15 | 9.20613 | | 9.21182 | | 0.78818 | 9.99432 | | 45 | 6 8.0 7.9 |
| | | 78 | | 79 | | | 3 | | 7 9.3 9.2 |
| | | | | | | | | | 8 10.7 10.5 |
| 16 | 9.20691 | | 9.21261 | | 0.78739 | 9.99429 | | 44 | 9 12.0 11.9 |
| | | 77 | | 80 | | | 2 | | 10 13.3 13.2 |
| 17 | 9.20768 | | 9.21341 | | 0.78659 | 9.99427 | | 43 | 20 26.7 26.3 |
| | | 77 | | 79 | | | 2 | | 30 40.0 39.5 |
| 18 | 9.20845 | | 9.21420 | | 0.78580 | 9.99425 | | 42 | 40 53.3 52.7 |
| | | 77 | | 79 | | | 2 | | 50 66.7 65.8 |
| 19 | 9.20922 | | 9.21499 | | 0.78501 | 9.99423 | | 41 | |
| | | 77 | | 79 | | | 2 | | |
| 20 | 9.20999 | | 9.21578 | | 0.78422 | 9.99421 | | 40 | |
| | | 77 | | 79 | | | 2 | | |
| 21 | 9.21076 | | 9.21657 | | 0.78343 | 9.99419 | | 39 | 78 77 |
| | | 77 | | 79 | | | 2 | | 1 1.3 1.3 |
| 22 | 9.21153 | | 9.21736 | | 0.78264 | 9.99417 | | 38 | 2 2.6 2.6 |
| | | 76 | | 78 | | | 2 | | 3 3.9 3.9 |
| 23 | 9.21229 | | 9.21814 | | 0.78186 | 9.99415 | | 37 | 4 5.2 5.1 |
| | | 77 | | 79 | | | 2 | | 5 6.5 6.4 |
| 24 | 9.21306 | | 9.21893 | | 0.78107 | 9.99413 | | 36 | 6 7.8 7.7 |
| | | 76 | | 78 | | | 2 | | 7 9.1 9.0 |
| 25 | 9.21382 | | 9.21971 | | 0.78029 | 9.99411 | | 35 | 8 10.4 10.3 |
| | | 76 | | 78 | | | 2 | | 9 11.7 11.6 |
| 26 | 9.21458 | | 9.22049 | | 0.77951 | 9.99409 | | 34 | 10 13.0 12.8 |
| | | 76 | | 78 | | | 2 | | 20 26.0 25.7 |
| 27 | 9.21534 | | 9.22127 | | 0.77873 | 9.99407 | | 33 | 30 39.0 38.5 |
| | | 76 | | 78 | | | 3 | | 40 52.0 51.3 |
| 28 | 9.21610 | | 9.22205 | | 0.77795 | 9.99404 | | 32 | 50 65.0 64.2 |
| | | 75 | | 78 | | | 2 | | |
| 29 | 9.21685 | | 9.22283 | | 0.77717 | 9.99402 | | 31 | |
| | | 76 | | 78 | | | 2 | | |
| 30 | 9.21761 | | 9.22361 | | 0.77639 | 9.99400 | | 30 | |
| | | 75 | | 77 | | | 2 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 80°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.21761** | | **9.22361** | | **0.77639** | **9.99400** | | **30** |
| | | 75 | | 77 | | | 2 | |
| 31 | 9.21836 | | 9.22438 | | 0.77562 | 9.99398 | | 29 |
| | | 76 | | 78 | | | 2 | |
| 32 | 9.21912 | | 9.22516 | | 0.77484 | 9.99396 | | 28 |
| | | 75 | | 77 | | | 2 | |
| 33 | 9.21987 | | 9.22593 | | 0.77407 | 9.99394 | | 27 |
| | | 75 | | 77 | | | 2 | |
| 34 | 9.22062 | | 9.22670 | | 0.77330 | 9.99392 | | 26 |
| | | 75 | | 77 | | | 2 | |
| **35** | **9.22137** | | **9.22747** | | **0.77253** | **9.99390** | | **25** |
| | | 74 | | 77 | | | 2 | |
| 36 | 9.22211 | | 9.22824 | | 0.77176 | 9.99388 | | 24 |
| | | 75 | | 77 | | | 3 | |
| 37 | 9.22286 | | 9.22901 | | 0.77099 | 9.99385 | | 23 |
| | | 75 | | 76 | | | 2 | |
| 38 | 9.22361 | | 9.22977 | | 0.77023 | 9.99383 | | 22 |
| | | 74 | | 77 | | | 2 | |
| 39 | 9.22435 | | 9.23054 | | 0.76946 | 9.99381 | | 21 |
| | | 74 | | 76 | | | 2 | |
| **40** | **9.22509** | | **9.23130** | | **0.76870** | **9.99379** | | **20** |
| | | 74 | | 76 | | | 2 | |
| 41 | 9.22583 | | 9.23206 | | 0.76794 | 9.99377 | | 19 |
| | | 74 | | 77 | | | 2 | |
| 42 | 9.22657 | | 9.23283 | | 0.76717 | 9.99375 | | 18 |
| | | 74 | | 76 | | | 3 | |
| 43 | 9.22731 | | 9.23359 | | 0.76641 | 9.99372 | | 17 |
| | | 74 | | 76 | | | 2 | |
| 44 | 9.22805 | | 9.23435 | | 0.76565 | 9.99370 | | 16 |
| | | 73 | | 75 | | | 2 | |
| **45** | **9.22878** | | **9.23510** | | **0.76490** | **9.99368** | | **15** |
| | | 74 | | 76 | | | 2 | |
| 46 | 9.22952 | | 9.23586 | | 0.76414 | 9.99366 | | 14 |
| | | 73 | | 75 | | | 2 | |
| 47 | 9.23025 | | 9.23661 | | 0.76339 | 9.99364 | | 13 |
| | | 73 | | 76 | | | 2 | |
| 48 | 9.23098 | | 9.23737 | | 0.76263 | 9.99362 | | 12 |
| | | 73 | | 75 | | | 3 | |
| 49 | 9.23171 | | 9.23812 | | 0.76188 | 9.99359 | | 11 |
| | | 73 | | 75 | | | 2 | |
| **50** | **9.23244** | | **9.23887** | | **0.76113** | **9.99357** | | **10** |
| | | 73 | | 75 | | | 2 | |
| 51 | 9.23317 | | 9.23962 | | 0.76038 | 9.99355 | | 9 |
| | | 73 | | 75 | | | 2 | |
| 52 | 9.23390 | | 9.24037 | | 0.75963 | 9.99353 | | 8 |
| | | 72 | | 75 | | | 2 | |
| 53 | 9.23462 | | 9.24112 | | 0.75888 | 9.99351 | | 7 |
| | | 73 | | 74 | | | 3 | |
| 54 | 9.23535 | | 9.24186 | | 0.75814 | 9.99348 | | 6 |
| | | 72 | | 75 | | | 2 | |
| **55** | **9.23607** | | **9.24261** | | **0.75739** | **9.99346** | | **5** |
| | | 72 | | 74 | | | 2 | |
| 56 | 9.23679 | | 9.24335 | | 0.75665 | 9.99344 | | 4 |
| | | 73 | | 75 | | | 2 | |
| 57 | 9.23752 | | 9.24410 | | 0.75590 | 9.99342 | | 3 |
| | | 71 | | 74 | | | 2 | |
| 58 | 9.23823 | | 9.24484 | | 0.75516 | 9.99340 | | 2 |
| | | 72 | | 74 | | | 3 | |
| 59 | 9.23895 | | 9.24558 | | 0.75442 | 9.99337 | | 1 |
| | | 72 | | 74 | | | 2 | |
| **60** | **9.23967** | | **9.24632** | | **0.75368** | **9.99335** | | **0** |
| | | 72 | | 74 | | | 2 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 76 | 75 |
|---|---|---|
| 1 | 1.3 | 1.3 |
| 2 | 2.5 | 2.5 |
| 3 | 3.8 | 3.8 |
| 4 | 5.1 | 5.0 |
| 5 | 6.3 | 6.3 |
| 6 | 7.6 | 7.5 |
| 7 | 8.9 | 8.8 |
| 8 | 10.1 | 10.0 |
| 9 | 11.4 | 11.3 |
| 10 | 12.7 | 12.5 |
| 20 | 25.3 | 25.0 |
| 30 | 38.0 | 37.5 |
| 40 | 50.7 | 50.0 |
| 50 | 63.3 | 62.5 |

| | 74 | 73 |
|---|---|---|
| 1 | 1.2 | 1.2 |
| 2 | 2.5 | 2.4 |
| 3 | 3.7 | 3.7 |
| 4 | 4.9 | 4.9 |
| 5 | 6.2 | 6.1 |
| 6 | 7.4 | 7.3 |
| 7 | 8.6 | 8.5 |
| 8 | 9.9 | 9.7 |
| 9 | 11.1 | 11.0 |
| 10 | 12.3 | 12.2 |
| 20 | 24.7 | 24.3 |
| 30 | 37.0 | 36.5 |
| 40 | 49.3 | 48.7 |
| 50 | 61.7 | 60.8 |

| | 72 | 71 |
|---|---|---|
| 1 | 1.2 | 1.2 |
| 2 | 2.4 | 2.4 |
| 3 | 3.6 | 3.6 |
| 4 | 4.8 | 4.7 |
| 5 | 6.0 | 5.9 |
| 6 | 7.2 | 7.1 |
| 7 | 8.4 | 8.3 |
| 8 | 9.6 | 9.5 |
| 9 | 10.8 | 10.7 |
| 10 | 12.0 | 11.8 |
| 20 | 24.0 | 23.7 |
| 30 | 36.0 | 35.5 |
| 40 | 48.0 | 47.3 |
| 50 | 60.0 | 59.2 |

PP.

# 10°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.23967 | 72 | 9.24632 | 74 | 0.75368 | 9.99335 | 2 | 60 |
| 1 | 9.24039 | 71 | 9.24706 | 73 | 0.75294 | 9.99333 | 2 | 59 |
| 2 | 9.24110 | 71 | 9.24779 | 74 | 0.75221 | 9.99331 | 3 | 58 |
| 3 | 9.24181 | 72 | 9.24853 | 73 | 0.75147 | 9.99328 | 2 | 57 |
| 4 | 9.24253 | 71 | 9.24926 | 74 | 0.75074 | 9.99326 | 2 | 56 |
| 5 | 9.24324 | 71 | 9.25000 | 73 | 0.75000 | 9.99324 | 2 | 55 |
| 6 | 9.24395 | 71 | 9.25073 | 73 | 0.74927 | 9.99322 | 3 | 54 |
| 7 | 9.24466 | 70 | 9.25146 | 73 | 0.74854 | 9.99319 | 2 | 53 |
| 8 | 9.24536 | 71 | 9.25219 | 73 | 0.74781 | 9.99317 | 2 | 52 |
| 9 | 9.24607 | 70 | 9.25292 | 73 | 0.74708 | 9.99315 | 2 | 51 |
| 10 | 9.24677 | 71 | 9.25365 | 72 | 0.74635 | 9.99313 | 3 | 50 |
| 11 | 9.24748 | 70 | 9.25437 | 73 | 0.74563 | 9.99310 | 2 | 49 |
| 12 | 9.24818 | 70 | 9.25510 | 72 | 0.74490 | 9.99308 | 2 | 48 |
| 13 | 9.24888 | 70 | 9.25582 | 73 | 0.74418 | 9.99306 | 2 | 47 |
| 14 | 9.24958 | 70 | 9.25655 | 72 | 0.74345 | 9.99304 | 2 | 46 |
| 15 | 9.25028 | 70 | 9.25727 | 72 | 0.74273 | 9.99301 | 3 | 45 |
| 16 | 9.25098 | 70 | 9.25799 | 72 | 0.74201 | 9.99299 | 2 | 44 |
| 17 | 9.25168 | 69 | 9.25871 | 72 | 0.74129 | 9.99297 | 2 | 43 |
| 18 | 9.25237 | 70 | 9.25943 | 72 | 0.74057 | 9.99294 | 3 | 42 |
| 19 | 9.25307 | 69 | 9.26015 | 71 | 0.73985 | 9.99292 | 2 | 41 |
| 20 | 9.25376 | 69 | 9.26086 | 72 | 0.73914 | 9.99290 | 2 | 40 |
| 21 | 9.25445 | 69 | 9.26158 | 71 | 0.73842 | 9.99288 | 3 | 39 |
| 22 | 9.25514 | 69 | 9.26229 | 72 | 0.73771 | 9.99285 | 2 | 38 |
| 23 | 9.25583 | 69 | 9.26301 | 71 | 0.73699 | 9.99283 | 2 | 37 |
| 24 | 9.25652 | 69 | 9.26372 | 71 | 0.73628 | 9.99281 | 3 | 36 |
| 25 | 9.25721 | 69 | 9.26443 | 71 | 0.73557 | 9.99278 | 2 | 35 |
| 26 | 9.25790 | 68 | 9.26514 | 71 | 0.73486 | 9.99276 | 2 | 34 |
| 27 | 9.25858 | 69 | 9.26585 | 70 | 0.73415 | 9.99274 | 3 | 33 |
| 28 | 9.25927 | 68 | 9.26655 | 71 | 0.73345 | 9.99271 | 2 | 32 |
| 29 | 9.25995 | 68 | 9.26726 | 71 | 0.73274 | 9.99269 | 2 | 31 |
| 30 | 9.26063 | 68 | 9.26797 | 70 | 0.73203 | 9.99267 | 3 | 30 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 74 | 73 |
|---|---|---|
| 1 | 1.2 | 1.2 |
| 2 | 2.5 | 2.4 |
| 3 | 3.7 | 3.7 |
| 4 | 4.9 | 4.9 |
| 5 | 6.2 | 6.1 |
| 6 | 7.4 | 7.3 |
| 7 | 8.6 | 8.5 |
| 8 | 9.9 | 9.7 |
| 9 | 11.1 | 11.0 |
| 10 | 12.3 | 12.2 |
| 20 | 24.7 | 24.3 |
| 30 | 37.0 | 36.5 |
| 40 | 49.3 | 48.7 |
| 50 | 61.7 | 60.8 |

| | 72 | 71 |
|---|---|---|
| 1 | 1.2 | 1.2 |
| 2 | 2.4 | 2.4 |
| 3 | 3.6 | 3.6 |
| 4 | 4.8 | 4.7 |
| 5 | 6.0 | 5.9 |
| 6 | 7.2 | 7.1 |
| 7 | 8.4 | 8.3 |
| 8 | 9.6 | 9.5 |
| 9 | 10.8 | 10.7 |
| 10 | 12.0 | 11.8 |
| 20 | 24.0 | 23.7 |
| 30 | 36.0 | 35.5 |
| 40 | 48.0 | 47.3 |
| 50 | 60.0 | 59.2 |

| | 70 | 69 |
|---|---|---|
| 1 | 1.2 | 1.2 |
| 2 | 2.3 | 2.3 |
| 3 | 3.5 | 3.5 |
| 4 | 4.7 | 4.6 |
| 5 | 5.8 | 5.8 |
| 6 | 7.0 | 6.9 |
| 7 | 8.2 | 8.1 |
| 8 | 9.3 | 9.2 |
| 9 | 10.5 | 10.4 |
| 10 | 11.7 | 11.5 |
| 20 | 23.3 | 23.0 |
| 30 | 35.0 | 34.5 |
| 40 | 46.7 | 46.0 |
| 50 | 58.3 | 57.5 |

PP.

# 79°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 30 | 9.26063 | | 9.26797 | | 0.73203 | 9.99267 | | 30 |
| | | 68 | | 70 | | | 3 | |
| 31 | 9.26131 | | 9.26867 | | 0.73133 | 9.99264 | | 29 |
| | | 68 | | 70 | | | 2 | |
| 32 | 9.26199 | | 9.26937 | | 0.73063 | 9.99262 | | 28 |
| | | 68 | | 71 | | | 2 | |
| 33 | 9.26267 | | 9.27008 | | 0.72992 | 9.99260 | | 27 |
| | | 68 | | 70 | | | 3 | |
| 34 | 9.26335 | | 9.27078 | | 0.72922 | 9.99257 | | 26 |
| | | 68 | | 70 | | | 2 | |
| 35 | 9.26403 | | 9.27148 | | 0.72852 | 9.99255 | | 25 |
| | | 67 | | 70 | | | 3 | |
| 36 | 9.26470 | | 9.27218 | | 0.72782 | 9.99252 | | 24 |
| | | 68 | | 70 | | | 2 | |
| 37 | 9.26538 | | 9.27288 | | 0.72712 | 9.99250 | | 23 |
| | | 67 | | 69 | | | 2 | |
| 38 | 9.26605 | | 9.27357 | | 0.72643 | 9.99248 | | 22 |
| | | 67 | | 70 | | | 3 | |
| 39 | 9.26672 | | 9.27427 | | 0.72573 | 9.99245 | | 21 |
| | | 67 | | 69 | | | 2 | |
| 40 | 9.26739 | | 9.27496 | | 0.72504 | 9.99243 | | 20 |
| | | 67 | | 70 | | | 2 | |
| 41 | 9.26806 | | 9.27566 | | 0.72434 | 9.99241 | | 19 |
| | | 67 | | 69 | | | 3 | |
| 42 | 9.26873 | | 9.27635 | | 0.72365 | 9.99238 | | 18 |
| | | 67 | | 69 | | | 2 | |
| 43 | 9.26940 | | 9.27704 | | 0.72296 | 9.99236 | | 17 |
| | | 67 | | 69 | | | 3 | |
| 44 | 9.27007 | | 9.27773 | | 0.72227 | 9.99233 | | 16 |
| | | 66 | | 69 | | | 2 | |
| 45 | 9.27073 | | 9.27842 | | 0.72158 | 9.99231 | | 15 |
| | | 67 | | 69 | | | 2 | |
| 46 | 9.27140 | | 9.27911 | | 0.72089 | 9.99229 | | 14 |
| | | 66 | | 69 | | | 3 | |
| 47 | 9.27206 | | 9.27980 | | 0.72020 | 9.99226 | | 13 |
| | | 67 | | 69 | | | 2 | |
| 48 | 9.27273 | | 9.28049 | | 0.71951 | 9.99224 | | 12 |
| | | 66 | | 68 | | | 3 | |
| 49 | 9.27339 | | 9.28117 | | 0.71883 | 9.99221 | | 11 |
| | | 66 | | 69 | | | 2 | |
| 50 | 9.27405 | | 9.28186 | | 0.71814 | 9.99219 | | 10 |
| | | 66 | | 68 | | | 2 | |
| 51 | 9.27471 | | 9.28254 | | 0.71746 | 9.99217 | | 9 |
| | | 66 | | 69 | | | 3 | |
| 52 | 9.27537 | | 9.28323 | | 0.71677 | 9.99214 | | 8 |
| | | 65 | | 68 | | | 2 | |
| 53 | 9.27602 | | 9.28391 | | 0.71609 | 9.99212 | | 7 |
| | | 66 | | 68 | | | 3 | |
| 54 | 9.27668 | | 9.28459 | | 0.71541 | 9.99209 | | 6 |
| | | 66 | | 68 | | | 2 | |
| 55 | 9.27734 | | 9.28527 | | 0.71473 | 9.99207 | | 5 |
| | | 65 | | 68 | | | 3 | |
| 56 | 9.27799 | | 9.28595 | | 0.71405 | 9.99204 | | 4 |
| | | 65 | | 67 | | | 2 | |
| 57 | 9.27864 | | 9.28662 | | 0.71338 | 9.99202 | | 3 |
| | | 66 | | 68 | | | 2 | |
| 58 | 9.27930 | | 9.28730 | | 0.71270 | 9.99200 | | 2 |
| | | 65 | | 68 | | | 3 | |
| 59 | 9.27995 | | 9.28798 | | 0.71202 | 9.99197 | | 1 |
| | | 65 | | 67 | | | 2 | |
| 60 | 9.28060 | | 9.28865 | | 0.71135 | 9.99195 | | 0 |
| | | 65 | | 68 | | | 3 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 70 | 69 |
|---|---|---|
| 1 | 1.2 | 1.2 |
| 2 | 2.3 | 2.3 |
| 3 | 3.5 | 3.5 |
| 4 | 4.7 | 4.6 |
| 5 | 5.8 | 5.8 |
| 6 | 7.0 | 6.9 |
| 7 | 8.2 | 8.1 |
| 8 | 9.3 | 9.2 |
| 9 | 10.5 | 10.4 |
| 10 | 11.7 | 11.5 |
| 20 | 23.3 | 23.0 |
| 30 | 35.0 | 34.5 |
| 40 | 46.7 | 46.0 |
| 50 | 58.3 | 57.5 |

| | 68 | 67 |
|---|---|---|
| 1 | 1.1 | 1.1 |
| 2 | 2.3 | 2.2 |
| 3 | 3.4 | 3.4 |
| 4 | 4.5 | 4.5 |
| 5 | 5.7 | 5.6 |
| 6 | 6.8 | 6.7 |
| 7 | 7.9 | 7.8 |
| 8 | 9.1 | 8.9 |
| 9 | 10.2 | 10.1 |
| 10 | 11.3 | 11.2 |
| 20 | 22.7 | 22.3 |
| 30 | 34.0 | 33.5 |
| 40 | 45.3 | 44.7 |
| 50 | 56.7 | 55.8 |

| | 66 | 65 |
|---|---|---|
| 1 | 1.1 | 1.1 |
| 2 | 2.2 | 2.2 |
| 3 | 3.3 | 3.3 |
| 4 | 4.4 | 4.3 |
| 5 | 5.5 | 5.4 |
| 6 | 6.6 | 6.5 |
| 7 | 7.7 | 7.6 |
| 8 | 8.8 | 8.7 |
| 9 | 9.9 | 9.8 |
| 10 | 11.0 | 10.8 |
| 20 | 22.0 | 21.7 |
| 30 | 33.0 | 32.5 |
| 40 | 44.0 | 43.3 |
| 50 | 55.0 | 54.2 |

PP.

# 11°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.28060 | | 9.28865 | | 0.71135 | 9.99195 | | 60 | |
| | | 65 | | 68 | | | 3 | | |
| 1 | 9.28125 | | 9.28933 | | 0.71067 | 9.99192 | | 59 | |
| | | 65 | | 67 | | | 2 | | |
| 2 | 9.28190 | | 9.29000 | | 0.71000 | 9.99190 | 3 | 58 | |
| | | 64 | | 67 | | | | | 68 67 |
| 3 | 9.28254 | | 9.29067 | | 0.70933 | 9.99187 | 2 | 57 | 1 1.1 1.1 |
| | | 65 | | 67 | | | | | 2 2.3 2.2 |
| 4 | 9.28319 | | 9.29134 | | 0.70866 | 9.99185 | | 56 | 3 3.4 3.4 |
| | | 65 | | 67 | | | 3 | | 4 4.5 4 5 |
| 5 | 9.28384 | | 9.29201 | | 0.70799 | 9.99182 | | 55 | 5 5.7 5.6 |
| | | 64 | | 67 | | | 2 | | 6 6.8 6.7 |
| 6 | 9.28448 | | 9.29268 | | 0.70732 | 9.99180 | | 54 | 7 7.9 7.8 |
| | | 64 | | 67 | | | 3 | | 8 9 1 8.9 |
| 7 | 9.28512 | | 9.29335 | | 0.70665 | 9.99177 | | 53 | 9 10.2 10.1 |
| | | 65 | | 67 | | | 2 | | 10 11.3 11.2 |
| 8 | 9.28577 | | 9.29402 | | 0.70598 | 9.99175 | | 52 | 20 22.7 22.3 |
| | | 64 | | 66 | | | 3 | | 30 34.0 33.5 |
| 9 | 9.28641 | | 9.29468 | | 0.70532 | 9.99172 | | 51 | 40 45.3 44.7 |
| | | 64 | | 67 | | | 2 | | 50 56.7 55.8 |
| 10 | 9.28705 | | 9.29535 | | 0.70465 | 9.99170 | | 50 | |
| | | 64 | | 66 | | | 3 | | |
| 11 | 9.28769 | | 9.29601 | | 0.70399 | 9.99167 | | 49 | |
| | | 64 | | 67 | | | 2 | | |
| 12 | 9.28833 | | 9.29668 | | 0.70332 | 9.99165 | | 48 | 66 65 |
| | | 63 | | 66 | | | 3 | | 1 1.1 1.1 |
| 13 | 9.28896 | | 9.29734 | | 0.70266 | 9.99162 | | 47 | 2 2.2 2.2 |
| | | 64 | | 66 | | | 2 | | 3 3.3 3.3 |
| 14 | 9.28960 | | 9.29800 | | 0.70200 | 9.99160 | | 46 | 4 4.4 4.3 |
| | | 64 | | 66 | | | 3 | | 5 5.5 5.4 |
| 15 | 9.29024 | | 9.29866 | | 0.70134 | 9.99157 | | 45 | 6 6.6 6.5 |
| | | 63 | | 66 | | | 2 | | 7 7.7 7.6 |
| 16 | 9.29087 | | 9.29932 | | 0.70068 | 9.99155 | | 44 | 8 8.8 8.7 |
| | | 63 | | 66 | | | 3 | | 9 9.9 9.8 |
| 17 | 9.29150 | | 9.29998 | | 0.70002 | 9.99152 | | 43 | 10 11.0 10.8 |
| | | 64 | | 66 | | | 2 | | 20 22.0 21.7 |
| 18 | 9.29214 | | 9.30064 | | 0.69936 | 9.99150 | | 42 | 30 33.0 32.5 |
| | | 63 | | 66 | | | 3 | | 40 44.0 43.3 |
| 19 | 9.29277 | | 9.30130 | | 0.69870 | 9.99147 | | 41 | 50 55.0 54.2 |
| | | 63 | | 65 | | | 2 | | |
| 20 | 9.29340 | | 9.30195 | | 0.69805 | 9.99145 | | 40 | |
| | | 63 | | 66 | | | 3 | | |
| 21 | 9.29403 | | 9.30261 | | 0.69739 | 9.99142 | | 39 | 64 63 |
| | | 63 | | 65 | | | 2 | | 1 1.1 1.1 |
| 22 | 9.29466 | | 9.30326 | | 0.69674 | 9.99140 | | 38 | 2 2.1 2.1 |
| | | 63 | | 65 | | | 3 | | 3 3.2 3.2 |
| 23 | 9.29529 | | 9.30391 | | 0.69609 | 9.99137 | | 37 | 4 4.3 4.2 |
| | | 62 | | 66 | | | 2 | | 5 5.3 5.3 |
| 24 | 9.29591 | | 9.30457 | | 0.69543 | 9.99135 | | 36 | 6 6.4 6.3 |
| | | 63 | | 65 | | | 3 | | 7 7.5 7.4 |
| 25 | 9.29654 | | 9.30522 | | 0.69478 | 9.99132 | | 35 | 8 8.5 8.4 |
| | | 62 | | 65 | | | 2 | | 9 9.6 9.5 |
| 26 | 9.29716 | | 9.30587 | | 0.69413 | 9.99130 | | 34 | 10 10.7 10.5 |
| | | 63 | | 65 | | | 3 | | 20 21.3 21.0 |
| 27 | 9.29779 | | 9.30652 | | 0.69348 | 9.99127 | | 33 | 30 32.0 31.5 |
| | | 62 | | 65 | | | 3 | | 40 42.7 42.0 |
| 28 | 9.29841 | | 9.30717 | | 0.69283 | 9.99124 | | 32 | 50 53.3 52.5 |
| | | 62 | | 65 | | | 2 | | |
| 29 | 9.29903 | | 9.30782 | | 0.69218 | 9.99122 | | 31 | |
| | | 63 | | 64 | | | 3 | | |
| 30 | 9.29966 | | 9.30846 | | 0.69154 | 9.99119 | | 30 | |
| | | 62 | | 65 | | | 2 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 78°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.29966** | | **9.30846** | | **0.69154** | **9.99119** | | **30** | |
| | | 62 | | 65 | | | 2 | | |
| 31 | 9.30028 | | 9.30911 | | 0.69089 | 9.99117 | | 29 | |
| | | 62 | | 64 | | | 3 | | |
| 32 | 9.30090 | | 9.30975 | | 0.69025 | 9.99114 | | 28 | |
| | | 61 | | 65 | | | 2 | | 64 63 |
| 33 | 9.30151 | | 9.31040 | | 0.68960 | 9.99112 | | 27 | 1 1.1 1.1 |
| | | 62 | | 64 | | | 3 | | 2 2.1 2.1 |
| 34 | 9.30213 | | 9.31104 | | 0.68896 | 9.99109 | | 26 | 3 3.2 3.2 |
| | | 62 | | 64 | | | 3 | | 4 4.3 4.2 |
| **35** | **9.30275** | | **9.31168** | | **0.68832** | **9.99106** | | **25** | 5 5.3 5.3 |
| | | 61 | | 65 | | | 2 | | 6 6.4 6.3 |
| 36 | 9.30336 | | 9.31233 | | 0.68767 | 9.99104 | | 24 | 7 7.5 7.4 |
| | | 62 | | 64 | | | 3 | | 8 8.5 8.4 |
| 37 | 9.30398 | | 9.31297 | | 0.68703 | 9.99101 | | 23 | 9 9.6 9.5 |
| | | 61 | | 64 | | | 2 | | 10 10.7 10.5 |
| 38 | 9.30459 | | 9.31361 | | 0.68639 | 9.99099 | | 22 | 20 21.3 21.0 |
| | | 62 | | 64 | | | 3 | | 30 32.0 31.5 |
| 39 | 9.30521 | | 9.31425 | | 0.68575 | 9.99096 | | 21 | 40 42.7 42.0 |
| | | 61 | | 64 | | | 3 | | 50 53.3 52.5 |
| **40** | **9.30582** | | **9.31489** | | **0.68511** | **9.99093** | | **20** | |
| | | 61 | | 63 | | | 2 | | |
| 41 | 9.30643 | | 9.31552 | | 0.68448 | 9.99091 | | 19 | |
| | | 61 | | 64 | | | 3 | | |
| 42 | 9.30704 | | 9.31616 | | 0.68384 | 9.99088 | | 18 | 62 61 |
| | | 61 | | 63 | | | 2 | | 1 1.0 1.0 |
| 43 | 9.30765 | | 9.31679 | | 0.68321 | 9.99086 | | 17 | 2 2.1 2.0 |
| | | 61 | | 64 | | | 3 | | 3 3.1 3.1 |
| 44 | 9.30826 | | 9.31743 | | 0.68257 | 9.99083 | | 16 | 4 4.1 4.1 |
| | | 61 | | 63 | | | 3 | | 5 5.2 5.1 |
| **45** | **9.30887** | | **9.31806** | | **0.68194** | **9.99080** | | **15** | 6 6.2 6.1 |
| | | 60 | | 64 | | | 2 | | 7 7.2 7.1 |
| 46 | 9.30947 | | 9.31870 | | 0.68130 | 9.99078 | | 14 | 8 8.3 8.1 |
| | | 61 | | 63 | | | 3 | | 9 9.3 9.2 |
| 47 | 9.31008 | | 9.31933 | | 0.68067 | 9.99075 | | 13 | 10 10.3 10.2 |
| | | 60 | | 63 | | | 3 | | 20 20.7 20.3 |
| 48 | 9.31068 | | 9.31996 | | 0.68004 | 9.99072 | | 12 | 30 31.0 30.5 |
| | | 61 | | 63 | | | 2 | | 40 41.3 40.7 |
| 49 | 9.31129 | | 9.32059 | | 0.67941 | 9.99070 | | 11 | 50 51.7 50.8 |
| | | 60 | | 63 | | | 3 | | |
| **50** | **9.31189** | | **9.32122** | | **0.67878** | **9.99067** | | **10** | |
| | | 61 | | 63 | | | 3 | | |
| 51 | 9.31250 | | 9.32185 | | 0.67815 | 9.99064 | | 9 | 60 59 |
| | | 60 | | 63 | | | 2 | | 1 1.0 1.0 |
| 52 | 9.31310 | | 9.32248 | | 0.67752 | 9.99062 | | 8 | 2 2.0 2.0 |
| | | 60 | | 63 | | | 3 | | 3 3.0 3.0 |
| 53 | 9.31370 | | 9.32311 | | 0.67689 | 9.99059 | | 7 | 4 4.0 3.9 |
| | | 60 | | 62 | | | 3 | | 5 5.0 4.9 |
| 54 | 9.31430 | | 9.32373 | | 0.67627 | 9.99056 | | 6 | 6 6.0 5.9 |
| | | 60 | | 63 | | | 2 | | 7 7.0 6.9 |
| **55** | **9.31490** | | **9.32436** | | **0.67564** | **9.99054** | | **5** | 8 8.0 7.9 |
| | | 59 | | 62 | | | 3 | | 9 9.0 8.9 |
| 56 | 9.31549 | | 9.32498 | | 0.67502 | 9.99051 | | 4 | 10 10.0 9.8 |
| | | 60 | | 63 | | | 3 | | 20 20.0 19.7 |
| 57 | 9.31609 | | 9.32561 | | 0.67439 | 9.99048 | | 3 | 30 30.0 29.5 |
| | | 60 | | 62 | | | 2 | | 40 40.0 39.3 |
| 58 | 9.31669 | | 9.32623 | | 0.67377 | 9.99046 | | 2 | 50 50.0 49.2 |
| | | 59 | | 62 | | | 3 | | |
| 59 | 9.31728 | | 9.32685 | | 0.67315 | 9.99043 | | 1 | |
| | | 60 | | 62 | | | 3 | | |
| **60** | **9.31788** | | **9.32747** | | **0.67253** | **9.99040** | | **0** | |
| | | 59 | | 63 | | | 2 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 12°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **9.31788** | | **9.32747** | | **0.67253** | **9.99040** | | 60 | |
| | | 59 | | 63 | | | 2 | | |
| 1 | 9.31847 | | 9.32810 | | 0.67190 | 9.99038 | | 59 | |
| | | 60 | | 62 | | | 3 | | |
| 2 | 9.31907 | | 9.32872 | | 0.67128 | 9.99035 | | 58 | |
| | | 59 | | 61 | | | 3 | | 63 62 |
| 3 | 9.31966 | | 9.32933 | | 0.67067 | 9.99032 | | 57 | 1 1.1 1.0 |
| | | 59 | | 62 | | | 2 | | 2 2.1 2.1 |
| 4 | 9.32025 | | 9.32995 | | 0.67005 | 9.99030 | | 56 | 3 3.2 3.1 |
| | | 59 | | 62 | | | 3 | | 4 4.2 4.1 |
| **5** | **9.32084** | | **9.33057** | | **0.66943** | **9.99027** | | 55 | 5 5.3 5.2 |
| | | 59 | | 62 | | | 3 | | 6 6.3 6.2 |
| 6 | 9.32143 | | 9.33119 | | 0.66881 | 9.99024 | | 54 | 7 7.4 7.2 |
| | | 59 | | 61 | | | 2 | | 8 8.4 8.3 |
| 7 | 9.32202 | | 9.33180 | | 0.66820 | 9.99022 | | 53 | 9 9.5 9.3 |
| | | 59 | | 62 | | | 3 | | 10 10.5 10.3 |
| 8 | 9.32261 | | 9.33242 | | 0.66758 | 9.99019 | | 52 | 20 21.0 20.7 |
| | | 58 | | 61 | | | 3 | | 30 31.5 31.0 |
| 9 | 9.32319 | | 9.33303 | | 0.66697 | 9.99016 | | 51 | 40 42.0 41.3 |
| | | 59 | | 62 | | | 3 | | 50 52.5 51.7 |
| **10** | **9.32378** | | **9.33365** | | **0.66635** | **9.99013** | | 50 | |
| | | 59 | | 61 | | | 2 | | |
| 11 | 9.32437 | | 9.33426 | | 0.66574 | 9.99011 | | 49 | |
| | | 58 | | 61 | | | 3 | | 61 60 |
| 12 | 9.32495 | | 9.33487 | | 0.66513 | 9.99008 | | 48 | 1 1.0 1.0 |
| | | 58 | | 61 | | | 3 | | 2 2.0 2.0 |
| 13 | 9.32553 | | 9.33548 | | 0.66452 | 9.99005 | | 47 | 3 3.1 3.0 |
| | | 59 | | 61 | | | 3 | | 4 4.1 4.0 |
| 14 | 9.32612 | | 9.33609 | | 0.66391 | 9.99002 | | 46 | 5 5.1 5.0 |
| | | 58 | | 61 | | | 2 | | 6 6.1 6.0 |
| **15** | **9.32670** | | **9.33670** | | **0.66330** | **9.99000** | | 45 | 7 7.1 7.0 |
| | | 58 | | 61 | | | 3 | | 8 8.1 8.0 |
| 16 | 9.32728 | | 9.33731 | | 0.66269 | 9.98997 | | 44 | 9 9.2 9.0 |
| | | 58 | | 61 | | | 3 | | 10 10.2 10.0 |
| 17 | 9.32786 | | 9.33792 | | 0.66208 | 9.98994 | | 43 | 20 20.3 20.0 |
| | | 58 | | 61 | | | 3 | | 30 30.5 30.0 |
| 18 | 9.32844 | | 9.33853 | | 0.66147 | 9.98991 | | 42 | 40 40.7 40.0 |
| | | 58 | | 60 | | | 2 | | 50 50.8 50.0 |
| 19 | 9.32902 | | 9.33913 | | 0.66087 | 9.98989 | | 41 | |
| | | 58 | | 61 | | | 3 | | |
| **20** | **9.32960** | | **9.33974** | | **0.66026** | **9.98986** | | 40 | |
| | | 58 | | 60 | | | 3 | | |
| 21 | 9.33018 | | 9.34034 | | 0.65966 | 9.98983 | | 39 | |
| | | 57 | | 61 | | | 3 | | 59 58 |
| 22 | 9.33075 | | 9.34095 | | 0.65905 | 9.98980 | | 38 | 1 1.0 1.0 |
| | | 58 | | 60 | | | 2 | | 2 2.0 1.9 |
| 23 | 9.33133 | | 9.34155 | | 0.65845 | 9.98978 | | 37 | 3 3.0 2.9 |
| | | 57 | | 60 | | | 3 | | 4 3.9 3.9 |
| 24 | 9.33190 | | 9.34215 | | 0.65785 | 9.98975 | | 36 | 5 4.9 4.8 |
| | | 58 | | 61 | | | 3 | | 6 5.9 5.8 |
| **25** | **9.33248** | | **9.34276** | | **0.65724** | **9.98972** | | 35 | 7 6.9 6.8 |
| | | 57 | | 60 | | | 3 | | 8 7.9 7.7 |
| 26 | 9.33305 | | 9.34336 | | 0.65664 | 9.98969 | | 34 | 9 8.9 8.7 |
| | | 57 | | 60 | | | 2 | | 10 9.8 9.7 |
| 27 | 9.33362 | | 9.34396 | | 0.65604 | 9.98967 | | 33 | 20 19.7 19.3 |
| | | 58 | | 60 | | | 3 | | 30 29.5 29.0 |
| 28 | 9.33420 | | 9.34456 | | 0.65544 | 9.98964 | | 32 | 40 39.3 38.7 |
| | | 57 | | 60 | | | 3 | | 50 49.2 48.3 |
| 29 | 9.33477 | | 9.34516 | | 0.65484 | 9.98961 | | 31 | |
| | | 57 | | 60 | | | 3 | | |
| **30** | **9.33534** | | **9.34576** | | **0.65424** | **9.98958** | | 30 | |
| | | 57 | | 59 | | | 3 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.33534** | | **9.34576** | | **0.65424** | **9.98958** | | **30** | |
| | | 57 | | 59 | | | 3 | | |
| 31 | 9.33591 | | 9.34635 | | 0.65365 | 9.98955 | | 29 | |
| 32 | 9.33647 | 56 | 9.34695 | 60 | 0.65305 | 9.98953 | 2 | 28 | |
| 33 | 9.33704 | 57 | 9.34755 | 60 | 0.65245 | 9.98950 | 3 | 27 | 59 58 |
| 34 | 9.33761 | 57 | 9.34814 | 59 | 0.65186 | 9.98947 | 3 | 26 | 1 1.0 1.0 |
| | | 57 | | 60 | | | 3 | | 2 2.0 1.9 |
| **35** | **9.33818** | | **9.34874** | | **0.65126** | **9.98944** | | **25** | 3 3.0 2.9 |
| | | 56 | | 59 | | | 3 | | 4 3.9 3.9 |
| 36 | 9.33874 | | 9.34933 | | 0.65067 | 9.98941 | | 24 | 5 4.9 4.8 |
| 37 | 9.33931 | 57 | 9.34992 | 59 | 0.65008 | 9.98938 | 3 | 23 | 6 5.9 5.8 |
| 38 | 9.33987 | 56 | 9.35051 | 59 | 0.64949 | 9.98936 | 2 | 22 | 7 6.9 6.8 |
| 39 | 9.34043 | 56 | 9.35111 | 60 | 0.64889 | 9.98933 | 3 | 21 | 8 7.9 7.7 |
| | | 57 | | 59 | | | 3 | | 9 8.9 8.7 |
| **40** | **9.34100** | | **9.35170** | | **0.64830** | **9.98930** | | **20** | 10 9.8 9.7 |
| | | 56 | | 59 | | | 3 | | 20 19.7 19.3 |
| 41 | 9.34156 | | 9.35229 | | 0.64771 | 9.98927 | | 19 | 30 29.5 29.0 |
| 42 | 9.34212 | 56 | 9.35288 | 59 | 0.64712 | 9.98924 | 3 | 18 | 40 39.3 38.7 |
| 43 | 9.34268 | 56 | 9.35347 | 59 | 0.64653 | 9.98921 | 3 | 17 | 50 49.2 48.3 |
| 44 | 9.34324 | 56 | 9.35405 | 58 | 0.64595 | 9.98919 | 2 | 16 | |
| | | 56 | | 59 | | | 3 | | 57 56 |
| **45** | **9.34380** | | **9.35464** | | **0.64536** | **9.98916** | | **15** | 1 1.0 0.9 |
| | | 56 | | 59 | | | 3 | | 2 1.9 1.9 |
| 46 | 9.34436 | | 9.35523 | | 0.64477 | 9.98913 | | 14 | 3 2.9 2.8 |
| 47 | 9.34491 | 55 | 9.35581 | 58 | 0.64419 | 9.98910 | 3 | 13 | 4 3.8 3.7 |
| 48 | 9.34547 | 56 | 9.35640 | 59 | 0.64360 | 9.98907 | 3 | 12 | 5 4.8 4.7 |
| 49 | 9.34602 | 55 | 9.35698 | 58 | 0.64302 | 9.98904 | 3 | 11 | 6 5.7 5.6 |
| | | 56 | | 59 | | | 3 | | 7 6.7 6.5 |
| **50** | **9.34658** | | **9.35757** | | **0.64243** | **9.98901** | | **10** | 8 7.6 7.5 |
| | | 55 | | 58 | | | 3 | | 9 8.6 8.4 |
| 51 | 9.34713 | | 9.35815 | | 0.64185 | 9.98898 | | 9 | 10 9.5 9.3 |
| 52 | 9.34769 | 56 | 9.35873 | 58 | 0.64127 | 9.98896 | 2 | 8 | 20 19.0 18.7 |
| 53 | 9.34824 | 55 | 9.35931 | 58 | 0.64069 | 9.98893 | 3 | 7 | 30 28.5 28.0 |
| 54 | 9.34879 | 55 | 9.35989 | 58 | 0.64011 | 9.98890 | 3 | 6 | 40 38.0 37.3 |
| | | 55 | | 58 | | | 3 | | 50 47.5 46.7 |
| **55** | **9.34934** | | **9.36047** | | **0.63953** | **9.98887** | | **5** | |
| | | 55 | | 58 | | | 3 | | 55 54 |
| 56 | 9.34989 | | 9.36105 | | 0.63895 | 9.98884 | | 4 | 1 0.9 0.9 |
| 57 | 9.35044 | 55 | 9.36163 | 58 | 0.63837 | 9.98881 | 3 | 3 | 2 1.8 1.8 |
| 58 | 9.35099 | 55 | 9.36221 | 58 | 0.63779 | 9.98878 | 3 | 2 | 3 2.8 2.7 |
| 59 | 9.35154 | 55 | 9.36279 | 58 | 0.63721 | 9.98875 | 3 | 1 | 4 3.7 3.6 |
| | | 55 | | 57 | | | 3 | | 5 4.6 4.5 |
| **60** | **9.35209** | | **9.36336** | | **0.63664** | **9.98872** | | **0** | 6 5.5 5.4 |
| | | 54 | | 58 | | | 3 | | 7 6.4 6.3 |
| | | | | | | | | | 8 7.3 7.2 |
| | | | | | | | | | 9 8.3 8.1 |
| | | | | | | | | | 10 9.2 9.0 |
| | | | | | | | | | 20 18.3 18.0 |
| | | | | | | | | | 30 27.5 27.0 |
| | | | | | | | | | 40 36.7 36.0 |
| | | | | | | | | | 50 45.8 45.0 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 13°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **0** | **9.35209** | 54 | **9.36336** | 58 | **0.63664** | **9.98872** | 3 | **60** |
| 1 | 9.35263 | 55 | 9.36394 | 58 | 0.63606 | 9.98869 | 2 | 59 |
| 2 | 9.35318 | 55 | 9.36452 | 57 | 0.63548 | 9.98867 | 3 | 58 |
| 3 | 9.35373 | 54 | 9.36509 | 57 | 0.63491 | 9.98864 | 3 | 57 |
| 4 | 9.35427 | 54 | 9.36566 | 58 | 0.63434 | 9.98861 | 3 | 56 |
| **5** | **9.35481** | 55 | **9.36624** | 57 | **0.63376** | **9.98858** | 3 | **55** |
| 6 | 9.35536 | 54 | 9.36681 | 57 | 0.63319 | 9.98855 | 3 | 54 |
| 7 | 9.35590 | 54 | 9.36738 | 57 | 0.63262 | 9.98852 | 3 | 53 |
| 8 | 9.35644 | 54 | 9.36795 | 57 | 0.63205 | 9.98849 | 3 | 52 |
| 9 | 9.35698 | 54 | 9.36852 | 57 | 0.63148 | 9.98846 | 3 | 51 |
| **10** | **9.35752** | 54 | **9.36909** | 57 | **0.63091** | **9.98843** | 3 | **50** |
| 11 | 9.35806 | 54 | 9.36966 | 57 | 0.63034 | 9.98840 | 3 | 49 |
| 12 | 9.35860 | 54 | 9.37023 | 57 | 0.62977 | 9.98837 | 3 | 48 |
| 13 | 9.35914 | 54 | 9.37080 | 57 | 0.62920 | 9.98834 | 3 | 47 |
| 14 | 9.35968 | 54 | 9.37137 | 56 | 0.62863 | 9.98831 | 3 | 46 |
| **15** | **9.36022** | 53 | **9.37193** | 57 | **0.62807** | **9.98828** | 3 | **45** |
| 16 | 9.36075 | 54 | 9.37250 | 56 | 0.62750 | 9.98825 | 3 | 44 |
| 17 | 9.36129 | 53 | 9.37306 | 57 | 0.62694 | 9.98822 | 3 | 43 |
| 18 | 9.36182 | 54 | 9.37363 | 56 | 0.62637 | 9.98819 | 3 | 42 |
| 19 | 9.36236 | 53 | 9.37419 | 57 | 0.62581 | 9.98816 | 3 | 41 |
| **20** | **9.36289** | 53 | **9.37476** | 56 | **0.62524** | **9.98813** | 3 | **40** |
| 21 | 9.36342 | 53 | 9.37532 | 56 | 0.62468 | 9.98810 | 3 | 39 |
| 22 | 9.36395 | 54 | 9.37588 | 56 | 0.62412 | 9.98807 | 3 | 38 |
| 23 | 9.36449 | 53 | 9.37644 | 56 | 0.62356 | 9.98804 | 3 | 37 |
| 24 | 9.36502 | 53 | 9.37700 | 56 | 0.62300 | 9.98801 | 3 | 36 |
| **25** | **9.36555** | 53 | **9.37756** | 56 | **0.62244** | **9.98798** | 3 | **35** |
| 26 | 9.36608 | 52 | 9.37812 | 56 | 0.62188 | 9.98795 | 3 | 34 |
| 27 | 9.36660 | 53 | 9.37868 | 56 | 0.62132 | 9.98792 | 3 | 33 |
| 28 | 9.36713 | 53 | 9.37924 | 56 | 0.62076 | 9.98789 | 3 | 32 |
| 29 | 9.36766 | 53 | 9.37980 | 55 | 0.62020 | 9.98786 | 3 | 31 |
| **30** | **9.36819** | 52 | **9.38035** | 56 | **0.61965** | **9.98783** | 3 | **30** |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 58 | 57 |
|---|---|---|
| 1 | 1.0 | 1.0 |
| 2 | 1.9 | 1.9 |
| 3 | 2.9 | 2.9 |
| 4 | 3.9 | 3.8 |
| 5 | 4.8 | 4.8 |
| 6 | 5.8 | 5.7 |
| 7 | 6.8 | 6.7 |
| 8 | 7.7 | 7.6 |
| 9 | 8.7 | 8.6 |
| 10 | 9.7 | 9.5 |
| 20 | 19.3 | 19.0 |
| 30 | 29.0 | 28.5 |
| 40 | 38.7 | 38.0 |
| 50 | 48.3 | 47.5 |

| | 56 | 55 |
|---|---|---|
| 1 | 0.9 | 0.9 |
| 2 | 1.9 | 1.8 |
| 3 | 2.8 | 2.8 |
| 4 | 3.7 | 3.7 |
| 5 | 4.7 | 4.6 |
| 6 | 5.6 | 5.5 |
| 7 | 6.5 | 6.4 |
| 8 | 7.5 | 7.3 |
| 9 | 8.4 | 8.3 |
| 10 | 9.3 | 9.2 |
| 20 | 18.7 | 18.3 |
| 30 | 28.0 | 27.5 |
| 40 | 37.3 | 36.7 |
| 50 | 46.7 | 45.8 |

| | 54 | 53 |
|---|---|---|
| 1 | 0.9 | 0.9 |
| 2 | 1.8 | 1.8 |
| 3 | 2.7 | 2.7 |
| 4 | 3.6 | 3.5 |
| 5 | 4.5 | 4.4 |
| 6 | 5.4 | 5.3 |
| 7 | 6.3 | 6.2 |
| 8 | 7.2 | 7.1 |
| 9 | 8.1 | 8.0 |
| 10 | 9.0 | 8.8 |
| 20 | 18.0 | 17.7 |
| 30 | 27.0 | 26.5 |
| 40 | 36.0 | 35.3 |
| 50 | 45.0 | 44.2 |

PP.

# 76°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 30 | 9.36819 | | 9.38035 | | 0.61965 | 9.98783 | | 30 | |
| | | 52 | | 56 | | | 3 | | |
| 31 | 9.36871 | | 9.38091 | | 0.61909 | 9.98780 | | 29 | |
| | | 53 | | 56 | | | 3 | | |
| 32 | 9.36924 | | 9.38147 | | 0.61853 | 9.98777 | | 28 | |
| | | 52 | | 55 | | | 3 | | 56 55 |
| 33 | 9.36976 | | 9.38202 | | 0.61798 | 9.98774 | | 27 | 1 0.9 0.9 |
| | | 52 | | 55 | | | 3 | | 2 1.9 1.8 |
| 34 | 9.37028 | | 9.38257 | | 0.61743 | 9.98771 | | 26 | 3 2.8 2.8 |
| | | 53 | | 56 | | | 3 | | 4 3.7 3.7 |
| 35 | 9.37081 | | 9.38313 | | 0.61687 | 9.98768 | | 25 | 5 4.7 4.6 |
| | | 52 | | 55 | | | 3 | | 6 5.6 5.5 |
| 36 | 9.37133 | | 9.38368 | | 0.61632 | 9.98765 | | 24 | 7 6.5 6.4 |
| | | 52 | | 55 | | | 3 | | 8 7.5 7.3 |
| 37 | 9.37185 | | 9.38423 | | 0.61577 | 9.98762 | | 23 | 9 8.4 8.3 |
| | | 52 | | 56 | | | 3 | | 10 9.3 9.2 |
| 38 | 9.37237 | | 9.38479 | | 0.61521 | 9.98759 | | 22 | 20 18.7 18.3 |
| | | 52 | | 55 | | | 3 | | 30 28.0 27.5 |
| 39 | 9.37289 | | 9.38534 | | 0.61466 | 9.98756 | | 21 | 40 37.3 36.7 |
| | | 52 | | 55 | | | 3 | | 50 46.7 45.8 |
| 40 | 9.37341 | | 9.38589 | | 0.61411 | 9.98753 | | 20 | |
| | | 52 | | 55 | | | 3 | | |
| 41 | 9.37393 | | 9.38644 | | 0.61356 | 9.98750 | | 19 | |
| | | 52 | | 55 | | | 4 | | |
| 42 | 9.37445 | | 9.38699 | | 0.61301 | 9.98746 | | 18 | 54 53 |
| | | 52 | | 55 | | | 3 | | 1 0.9 0.9 |
| 43 | 9.37497 | | 9.38754 | | 0.61246 | 9.98743 | | 17 | 2 1.8 1.8 |
| | | 52 | | 54 | | | 3 | | 3 2.7 2.7 |
| 44 | 9.37549 | | 9.38808 | | 0.61192 | 9.98740 | | 16 | 4 3.6 3.5 |
| | | 51 | | 55 | | | 3 | | 5 4.5 4.4 |
| 45 | 9.37600 | | 9.38863 | | 0.61137 | 9.98737 | | 15 | 6 5.4 5.3 |
| | | 52 | | 55 | | | 3 | | 7 6.3 6.2 |
| 46 | 9.37652 | | 9.38918 | | 0.61082 | 9.98734 | | 14 | 8 7.2 7.1 |
| | | 51 | | 54 | | | 3 | | 9 8.1 8.0 |
| 47 | 9.37703 | | 9.38972 | | 0.61028 | 9.98731 | | 13 | 10 9.0 8.8 |
| | | 52 | | 55 | | | 3 | | 20 18.0 17.7 |
| 48 | 9.37755 | | 9.39027 | | 0.60973 | 9.98728 | | 12 | 30 27.0 26.5 |
| | | 51 | | 55 | | | 3 | | 40 36.0 35.3 |
| 49 | 9.37806 | | 9.39082 | | 0.60918 | 9.98725 | | 11 | 50 45.0 44.2 |
| | | 52 | | 54 | | | 3 | | |
| 50 | 9.37858 | | 9.39136 | | 0.60864 | 9.98722 | | 10 | |
| | | 51 | | 54 | | | 3 | | |
| 51 | 9.37909 | | 9.39190 | | 0.60810 | 9.98719 | | 9 | 52 51 |
| | | 51 | | 55 | | | 4 | | 1 0.9 0.9 |
| 52 | 9.37960 | | 9.39245 | | 0.60755 | 9.98715 | | 8 | 2 1.7 1.7 |
| | | 51 | | 54 | | | 3 | | 3 2.6 2.6 |
| 53 | 9.38011 | | 9.39299 | | 0.60701 | 9.98712 | | 7 | 4 3.5 3.4 |
| | | 51 | | 54 | | | 3 | | 5 4.3 4.3 |
| 54 | 9.38062 | | 9.39353 | | 0.60647 | 9.98709 | | 6 | 6 5.2 5.1 |
| | | 51 | | 54 | | | 3 | | 7 6.1 6.0 |
| 55 | 9.38113 | | 9.39407 | | 0.60593 | 9.98706 | | 5 | 8 6.9 6.8 |
| | | 51 | | 54 | | | 3 | | 9 7.8 7.7 |
| 56 | 9.38164 | | 9.39461 | | 0.60539 | 9.98703 | | 4 | 10 8.7 8.5 |
| | | 51 | | 54 | | | 3 | | 20 17.3 17.0 |
| 57 | 9.38215 | | 9.39515 | | 0.60485 | 9.98700 | | 3 | 30 26.0 25.5 |
| | | 51 | | 54 | | | 3 | | 40 34.7 34.0 |
| 58 | 9.38266 | | 9.39569 | | 0.60431 | 9.98697 | | 2 | 50 43.3 42.5 |
| | | 51 | | 54 | | | 3 | | |
| 59 | 9.38317 | | 9.39623 | | 0.60377 | 9.98694 | | 1 | |
| | | 51 | | 54 | | | 4 | | |
| 60 | 9.38368 | | 9.39677 | | 0.60323 | 9.98690 | | 0 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 14°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.38368 | | 9.39677 | | 0.60323 | 9.98690 | | 60 | |
| | | 50 | | 54 | | | 3 | | |
| 1 | 9.38418 | | 9.39731 | | 0.60269 | 9.98687 | | 59 | |
| | | 51 | | 54 | | | 3 | | |
| 2 | 9.38469 | | 9.39785 | | 0.60215 | 9.98684 | | 58 | |
| | | 50 | | 53 | | | 3 | | 54 53 |
| 3 | 9.38519 | | 9.39838 | | 0.60162 | 9.98681 | | 57 | 1 0.9 0.9 |
| | | 51 | | 54 | | | 3 | | 2 1.8 1.8 |
| 4 | 9.38570 | | 9.39892 | | 0.60108 | 9.98678 | | 56 | 3 2.7 2.7 |
| | | 50 | | 53 | | | 3 | | 4 3.6 3.5 |
| 5 | 9.38620 | | 9.39945 | | 0.60055 | 9.98675 | | 55 | 5 4.5 4.4 |
| | | 50 | | 54 | | | 4 | | 6 5.4 5.3 |
| 6 | 9.38670 | | 9.39999 | | 0.60001 | 9.98671 | | 54 | 7 6.3 6.2 |
| | | 51 | | 53 | | | 3 | | 8 7.2 7.1 |
| 7 | 9.38721 | | 9.40052 | | 0.59948 | 9.98668 | | 53 | 9 8.1 8.0 |
| | | 50 | | 54 | | | 3 | | 10 9.0 8.8 |
| 8 | 9.38771 | | 9.40106 | | 0.59894 | 9.98665 | | 52 | 20 18.0 17.7 |
| | | 50 | | 53 | | | 3 | | 30 27.0 26.5 |
| 9 | 9.38821 | | 9.40159 | | 0.59841 | 9.98662 | | 51 | 40 36.0 35.3 |
| | | 50 | | 53 | | | 3 | | 50 45.0 44.2 |
| 10 | 9.38871 | | 9.40212 | | 0.59788 | 9.98659 | | 50 | |
| | | 50 | | 54 | | | 3 | | |
| 11 | 9.38921 | | 9.40266 | | 0.59734 | 9.98656 | | 49 | |
| | | 50 | | 53 | | | 4 | | |
| 12 | 9.38971 | | 9.40319 | | 0.59681 | 9.98652 | | 48 | 52 51 |
| | | 50 | | 53 | | | 3 | | 1 0.9 0.9 |
| 13 | 9.39021 | | 9.40372 | | 0.59628 | 9.98649 | | 47 | 2 1.7 1.7 |
| | | 50 | | 53 | | | 3 | | 3 2.6 2.6 |
| 14 | 9.39071 | | 9.40425 | | 0.59575 | 9.98646 | | 46 | 4 3.5 3.4 |
| | | 50 | | 53 | | | 3 | | 5 4.3 4.3 |
| 15 | 9.39121 | | 9.40478 | | 0.59522 | 9.98643 | | 45 | 6 5.2 5.1 |
| | | 49 | | 53 | | | 3 | | 7 6.1 6.0 |
| 16 | 9.39170 | | 9.40531 | | 0.59469 | 9.98640 | | 44 | 8 6.9 6.8 |
| | | 50 | | 53 | | | 4 | | 9 7.8 7.7 |
| 17 | 9.39220 | | 9.40584 | | 0.59416 | 9.98636 | | 43 | 10 8.7 8.5 |
| | | 50 | | 52 | | | 3 | | 20 17.3 17.0 |
| 18 | 9.39270 | | 9.40636 | | 0.59364 | 9.98633 | | 42 | 30 26.0 25.5 |
| | | 49 | | 53 | | | 3 | | 40 34.7 34.0 |
| 19 | 9.39319 | | 9.40689 | | 0.59311 | 9.98630 | | 41 | 50 43.3 42.5 |
| | | 50 | | 53 | | | 3 | | |
| 20 | 9.39369 | | 9.40742 | | 0.59258 | 9.98627 | | 40 | |
| | | 49 | | 53 | | | 4 | | |
| 21 | 9.39418 | | 9.40795 | | 0.59205 | 9.98623 | | 39 | 50 49 |
| | | 49 | | 52 | | | 3 | | 1 0.8 0.8 |
| 22 | 9.39467 | | 9.40847 | | 0.59153 | 9.98620 | | 38 | 2 1.7 1.6 |
| | | 50 | | 53 | | | 3 | | 3 2.5 2.5 |
| 23 | 9.39517 | | 9.40900 | | 0.59100 | 9.98617 | | 37 | 4 3.3 3.3 |
| | | 49 | | 52 | | | 3 | | 5 4.2 4.1 |
| 24 | 9.39566 | | 9.40952 | | 0.59048 | 9.98614 | | 36 | 6 5.0 4.9 |
| | | 49 | | 53 | | | 4 | | 7 5.8 5.7 |
| 25 | 9.39615 | | 9.41005 | | 0.58995 | 9.98610 | | 35 | 8 6.7 6.5 |
| | | 49 | | 52 | | | 3 | | 9 7.5 7.4 |
| 26 | 9.39664 | | 9.41057 | | 0.58943 | 9.98607 | | 34 | 10 8.3 8.2 |
| | | 49 | | 52 | | | 3 | | 20 16.7 16.3 |
| 27 | 9.39713 | | 9.41109 | | 0.58891 | 9.98604 | | 33 | 30 25.0 24.5 |
| | | 49 | | 52 | | | 3 | | 40 33.3 32.7 |
| 28 | 9.39762 | | 9.41161 | | 0.58839 | 9.98601 | | 32 | 50 41.7 40.8 |
| | | 49 | | 53 | | | 4 | | |
| 29 | 9.39811 | | 9.41214 | | 0.58786 | 9.98597 | | 31 | |
| | | 49 | | 52 | | | 3 | | |
| 30 | 9.39860 | | 9.41266 | | 0.58734 | 9.98594 | | 30 | |
| | | 49 | | 52 | | | 3 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 75°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 30 | 9.39860 | | 9.41266 | | 0.58734 | 9.98594 | | 30 | |
| | | 49 | | 52 | | | 3 | | |
| 31 | 9.39909 | | 9.41318 | | 0.58682 | 9.98591 | | 29 | |
| | | 49 | | 52 | | | 3 | | |
| 32 | 9.39958 | | 9.41370 | | 0.58630 | 9.98588 | | 28 | |
| | | 48 | | 52 | | | 4 | | |
| 33 | 9.40006 | | 9.41422 | | 0.58578 | 9.98584 | | 27 | 52 51 |
| | | 49 | | 52 | | | 3 | | 1 0.9 0.9 |
| 34 | 9.40055 | | 9.41474 | | 0.58526 | 9.98581 | | 26 | 2 1.7 1.7 |
| | | 48 | | 52 | | | 3 | | 3 2.6 2.6 |
| 35 | 9.40103 | | 9.41526 | | 0.58474 | 9.98578 | | 25 | 4 3.5 3.4 |
| | | 49 | | 52 | | | 4 | | 5 4.3 4.3 |
| 36 | 9.40152 | | 9.41578 | | 0.58422 | 9.98574 | | 24 | 6 5.2 5.1 |
| | | 48 | | 51 | | | 3 | | 7 6.1 6.0 |
| 37 | 9.40200 | | 9.41629 | | 0.58371 | 9.98571 | | 23 | 8 6.9 6.8 |
| | | 49 | | 52 | | | 3 | | 9 7.8 7.7 |
| 38 | 9.40249 | | 9.41681 | | 0.58319 | 9.98568 | | 22 | 10 8.7 8.5 |
| | | 48 | | 52 | | | 3 | | 20 17.3 17.0 |
| 39 | 9.40297 | | 9.41733 | | 0.58267 | 9.98565 | | 21 | 30 26.0 25.5 |
| | | 49 | | 51 | | | 4 | | 40 34.7 34.0 |
| 40 | 9.40346 | | 9.41784 | | 0.58216 | 9.98561 | | 20 | 50 43.3 42.5 |
| | | 48 | | 52 | | | 3 | | |
| 41 | 9.40394 | | 9.41836 | | 0.58164 | 9.98558 | | 19 | |
| | | 48 | | 51 | | | 3 | | |
| 42 | 9.40442 | | 9.41887 | | 0.58113 | 9.98555 | | 18 | 50 49 |
| | | 48 | | 52 | | | 4 | | 1 0.8 0.8 |
| 43 | 9.40490 | | 9.41939 | | 0.58061 | 9.98551 | | 17 | 2 1.7 1.6 |
| | | 48 | | 51 | | | 3 | | 3 2.5 2.5 |
| 44 | 9.40538 | | 9.41990 | | 0.58010 | 9.98548 | | 16 | 4 3.3 3.3 |
| | | 48 | | 51 | | | 3 | | 5 4.2 4.1 |
| 45 | 9.40586 | | 9.42041 | | 0.57959 | 9.98545 | | 15 | 6 5.0 4.9 |
| | | 48 | | 52 | | | 4 | | 7 5.8 5.7 |
| 46 | 9.40634 | | 9.42093 | | 0.57907 | 9.98541 | | 14 | 8 6.7 6.5 |
| | | 48 | | 51 | | | 3 | | 9 7.5 7.4 |
| 47 | 9.40682 | | 9.42144 | | 0.57856 | 9.98538 | | 13 | 10 8.3 8.2 |
| | | 48 | | 51 | | | 3 | | 20 16.7 16.3 |
| 48 | 9.40730 | | 9.42195 | | 0.57805 | 9.98535 | | 12 | 30 25.0 24.5 |
| | | 48 | | 51 | | | 4 | | 40 33.3 32.7 |
| 49 | 9.40778 | | 9.42246 | | 0.57754 | 9.98531 | | 11 | 50 41.7 40.8 |
| | | 47 | | 51 | | | 3 | | |
| 50 | 9.40825 | | 9.42297 | | 0.57703 | 9.98528 | | 10 | |
| | | 48 | | 51 | | | 3 | | |
| 51 | 9.40873 | | 9.42348 | | 0.57652 | 9.98525 | | 9 | 48 47 |
| | | 48 | | 51 | | | 4 | | 1 0.8 0.8 |
| 52 | 9.40921 | | 9.42399 | | 0.57601 | 9.98521 | | 8 | 2 1.6 1.6 |
| | | 47 | | 51 | | | 3 | | 3 2.4 2.4 |
| 53 | 9.40968 | | 9.42450 | | 0.57550 | 9.98518 | | 7 | 4 3.2 3.1 |
| | | 48 | | 51 | | | 3 | | 5 4.0 3.9 |
| 54 | 9.41016 | | 9.42501 | | 0.57499 | 9.98515 | | 6 | 6 4.8 4.7 |
| | | 47 | | 51 | | | 4 | | 7 5.6 5.5 |
| 55 | 9.41063 | | 9.42552 | | 0.57448 | 9.98511 | | 5 | 8 6.4 6.3 |
| | | 48 | | 51 | | | 3 | | 9 7.2 7.1 |
| 56 | 9.41111 | | 9.42603 | | 0.57397 | 9.98508 | | 4 | 10 8.0 7.8 |
| | | 47 | | 50 | | | 3 | | 20 16.0 15.7 |
| 57 | 9.41158 | | 9.42653 | | 0.57347 | 9.98505 | | 3 | 30 24.0 23.5 |
| | | 47 | | 51 | | | 4 | | 40 32.0 31.3 |
| 58 | 9.41205 | | 9.42704 | | 0.57296 | 9.98501 | | 2 | 50 40.0 39.2 |
| | | 47 | | 51 | | | 3 | | |
| 59 | 9.41252 | | 9.42755 | | 0.57245 | 9.98498 | | 1 | |
| | | 48 | | 50 | | | 4 | | |
| 60 | 9.41300 | | 9.42805 | | 0.57195 | 9.98494 | | 0 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 15°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.41300 | 47 | 9.42805 | 51 | 0.57195 | 9.98494 | 3 | 60 |
| 1 | 9.41347 | 47 | 9.42856 | 50 | 0.57144 | 9.98491 | 3 | 59 |
| 2 | 9.41394 | 47 | 9.42906 | 51 | 0.57094 | 9.98488 | 4 | 58 |
| 3 | 9.41441 | 47 | 9.42957 | 50 | 0.57043 | 9.98484 | 3 | 57 |
| 4 | 9.41488 | 47 | 9.43007 | 50 | 0.56993 | 9.98481 | 4 | 56 |
| 5 | 9.41535 | 47 | 9.43057 | 51 | 0.56943 | 9.98477 | 3 | 55 |
| 6 | 9.41582 | 46 | 9.43108 | 50 | 0.56892 | 9.98474 | 3 | 54 |
| 7 | 9.41628 | 47 | 9.43158 | 50 | 0.56842 | 9.98471 | 4 | 53 |
| 8 | 9.41675 | 47 | 9.43208 | 50 | 0.56792 | 9.98467 | 3 | 52 |
| 9 | 9.41722 | 46 | 9.43258 | 50 | 0.56742 | 9.98464 | 4 | 51 |
| 10 | 9.41768 | 47 | 9.43308 | 50 | 0.56692 | 9.98460 | 3 | 50 |
| 11 | 9.41815 | 46 | 9.43358 | 50 | 0.56642 | 9.98457 | 4 | 49 |
| 12 | 9.41861 | 47 | 9.43408 | 50 | 0.56592 | 9.98453 | 3 | 48 |
| 13 | 9.41908 | 46 | 9.43458 | 50 | 0.56542 | 9.98450 | 3 | 47 |
| 14 | 9.41954 | 47 | 9.43508 | 50 | 0.56492 | 9.98447 | 4 | 46 |
| 15 | 9.42001 | 46 | 9.43558 | 49 | 0.56442 | 9.98443 | 3 | 45 |
| 16 | 9.42047 | 46 | 9.43607 | 50 | 0.56393 | 9.98440 | 4 | 44 |
| 17 | 9.42093 | 47 | 9.43657 | 50 | 0.56343 | 9.98436 | 3 | 43 |
| 18 | 9.42140 | 46 | 9.43707 | 49 | 0.56293 | 9.98433 | 4 | 42 |
| 19 | 9.42186 | 46 | 9.43756 | 50 | 0.56244 | 9.98429 | 3 | 41 |
| 20 | 9.42232 | 46 | 9.43806 | 49 | 0.56194 | 9.98426 | 4 | 40 |
| 21 | 9.42278 | 46 | 9.43855 | 50 | 0.56145 | 9.98422 | 3 | 39 |
| 22 | 9.42324 | 46 | 9.43905 | 49 | 0.56095 | 9.98419 | 4 | 38 |
| 23 | 9.42370 | 46 | 9.43954 | 50 | 0.56046 | 9.98415 | 3 | 37 |
| 24 | 9.42416 | 45 | 9.44004 | 49 | 0.55996 | 9.98412 | 3 | 36 |
| 25 | 9.42461 | 46 | 9.44053 | 49 | 0.55947 | 9.98409 | 4 | 35 |
| 26 | 9.42507 | 46 | 9.44102 | 49 | 0.55898 | 9.98405 | 3 | 34 |
| 27 | 9.42553 | 46 | 9.44151 | 50 | 0.55849 | 9.98402 | 4 | 33 |
| 28 | 9.42599 | 45 | 9.44201 | 49 | 0.55799 | 9.98398 | 3 | 32 |
| 29 | 9.42644 | 46 | 9.44250 | 49 | 0.55750 | 9.98395 | 4 | 31 |
| 30 | 9.42690 | 45 | 9.44299 | 49 | 0.55701 | 9.98391 | 3 | 30 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 51 | 50 |
|---|---|---|
| 1 | 0.9 | 0.8 |
| 2 | 1.7 | 1.7 |
| 3 | 2.6 | 2.5 |
| 4 | 3.4 | 3.3 |
| 5 | 4.3 | 4.2 |
| 6 | 5.1 | 5.0 |
| 7 | 6.0 | 5.8 |
| 8 | 6.8 | 6.7 |
| 9 | 7.7 | 7.5 |
| 10 | 8.5 | 8.3 |
| 20 | 17.0 | 16.7 |
| 30 | 25.5 | 25.0 |
| 40 | 34.0 | 33.3 |
| 50 | 42.5 | 41.7 |

| | 49 | 48 |
|---|---|---|
| 1 | 0.8 | 0.8 |
| 2 | 1.6 | 1.6 |
| 3 | 2.5 | 2.4 |
| 4 | 3.3 | 3.2 |
| 5 | 4.1 | 4.0 |
| 6 | 4.9 | 4.8 |
| 7 | 5.7 | 5.6 |
| 8 | 6.5 | 6.4 |
| 9 | 7.4 | 7.2 |
| 10 | 8.2 | 8.0 |
| 20 | 16.3 | 16.0 |
| 30 | 24.5 | 24.0 |
| 40 | 32.7 | 32.0 |
| 50 | 40.8 | 40.0 |

| | 47 | 46 |
|---|---|---|
| 1 | 0.8 | 0.8 |
| 2 | 1.6 | 1.5 |
| 3 | 2.4 | 2.3 |
| 4 | 3.1 | 3.1 |
| 5 | 3.9 | 3.8 |
| 6 | 4.7 | 4.6 |
| 7 | 5.5 | 5.4 |
| 8 | 6.3 | 6.1 |
| 9 | 7.1 | 6.9 |
| 10 | 7.8 | 7.7 |
| 20 | 15.7 | 15.3 |
| 30 | 23.5 | 23.0 |
| 40 | 31.3 | 30.7 |
| 50 | 39.2 | 38.3 |

PP.

# 74°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.42690** | | **9.44299** | | **0.55701** | **9.98391** | | **30** | |
| | | 45 | | 49 | | | 3 | | |
| 31 | 9.42735 | | 9.44348 | | 0.55652 | 9.98388 | | 29 | |
| | | 46 | | 49 | | | 4 | | |
| 32 | 9.42781 | | 9.44397 | | 0.55603 | 9.98384 | | 28 | |
| | | 45 | | 49 | | | 3 | | 49 48 |
| 33 | 9.42826 | | 9.44446 | | 0.55554 | 9.98381 | | 27 | 1 0.8 0.8 |
| | | 46 | | 49 | | | 4 | | 2 1.6 1.6 |
| 34 | 9.42872 | | 9.44495 | | 0.55505 | 9.98377 | | 26 | 3 2.5 2.4 |
| | | 45 | | 49 | | | 4 | | 4 3.3 3.2 |
| **35** | **9.42917** | | **9.44544** | | **0.55456** | **9.98373** | | **25** | 5 4.1 4.0 |
| | | 45 | | 48 | | | 3 | | 6 4.9 4.8 |
| 36 | 9.42962 | | 9.44592 | | 0.55408 | 9.98370 | | 24 | 7 5.7 5.6 |
| | | 46 | | 49 | | | 4 | | 8 6.5 6.4 |
| 37 | 9.43008 | | 9.44641 | | 0.55359 | 9.98366 | | 23 | 9 7.4 7.2 |
| | | 45 | | 49 | | | 3 | | 10 8.2 8.0 |
| 38 | 9.43053 | | 9.44690 | | 0.55310 | 9.98363 | | 22 | 20 16.3 16.0 |
| | | 45 | | 48 | | | 4 | | 30 24.5 24.0 |
| 39 | 9.43098 | | 9.44738 | | 0.55262 | 9.98359 | | 21 | 40 32.7 32.0 |
| | | 45 | | 49 | | | 3 | | 50 40.8 40.0 |
| **40** | **9.43143** | | **9.44787** | | **0.55213** | **9.98356** | | **20** | |
| | | 45 | | 49 | | | 4 | | |
| 41 | 9.43188 | | 9.44836 | | 0.55164 | 9.98352 | | 19 | |
| | | 45 | | 48 | | | 3 | | |
| 42 | 9.43233 | | 9.44884 | | 0.55116 | 9.98349 | | 18 | 47 46 |
| | | 45 | | 49 | | | 4 | | 1 0.8 0.8 |
| 43 | 9.43278 | | 9.44933 | | 0.55067 | 9.98345 | | 17 | 2 1.6 1.5 |
| | | 45 | | 48 | | | 3 | | 3 2.4 2.3 |
| 44 | 9.43323 | | 9.44981 | | 0.55019 | 9.98342 | | 16 | 4 3.1 3.1 |
| | | 44 | | 48 | | | 4 | | 5 3.9 3.8 |
| **45** | **9.43367** | | **9.45029** | | **0.54971** | **9.98338** | | **15** | 6 4.7 4.6 |
| | | 45 | | 49 | | | 4 | | 7 5.5 5.4 |
| 46 | 9.43412 | | 9.45078 | | 0.54922 | 9.98334 | | 14 | 8 6.3 6.1 |
| | | 45 | | 48 | | | 3 | | 9 7.1 6.9 |
| 47 | 9.43457 | | 9.45126 | | 0.54874 | 9 98331 | | 13 | 10 7.8 7.7 |
| | | 45 | | 48 | | | 4 | | 20 15.7 15.3 |
| 48 | 9.43502 | | 9.45174 | | 0.54826 | 9.98327 | | 12 | 30 23.5 23.0 |
| | | 44 | | 48 | | | 3 | | 40 31.3 30.7 |
| 49 | 9.43546 | | 9.45222 | | 0.54778 | 9.98324 | | 11 | 50 39.2 38.3 |
| | | 45 | | 49 | | | 4 | | |
| **50** | **9.43591** | | **9.45271** | | **0.54729** | **9.98320** | | **10** | |
| | | 44 | | 48 | | | 3 | | |
| 51 | 9.43635 | | 9.45319 | | 0.54681 | 9.98317 | | 9 | |
| | | 45 | | 48 | | | 4 | | 45 44 |
| 52 | 9.43680 | | 9.45367 | | 0.54633 | 9.98313 | | 8 | 1 0.8 0.7 |
| | | 44 | | 48 | | | 4 | | 2 1.5 1.5 |
| 53 | 9.43724 | | 9.45415 | | 0.54585 | 9.98309 | | 7 | 3 2.3 2.2 |
| | | 45 | | 48 | | | 3 | | 4 3.0 2.9 |
| 54 | 9.43769 | | 9.45463 | | 0.54537 | 9.98306 | | 6 | 5 3.8 3.7 |
| | | 44 | | 48 | | | 4 | | 6 4.5 4.4 |
| **55** | **9.43813** | | **9.45511** | | **0.54489** | **9.98302** | | **5** | 7 5.3 5.1 |
| | | 44 | | 48 | | | 3 | | 8 6.0 5.9 |
| 56 | 9.43857 | | 9.45559 | | 0.54441 | 9.98299 | | 4 | 9 6.8 6.6 |
| | | 44 | | 47 | | | 4 | | 10 7.5 7.3 |
| 57 | 9.43901 | | 9.45606 | | 0.54394 | 9.98295 | | 3 | 20 15.0 14.7 |
| | | 45 | | 48 | | | 4 | | 30 22.5 22.0 |
| 58 | 9.43946 | | 9.45654 | | 0.54346 | 9.98291 | | 2 | 40 30.0 29.3 |
| | | 44 | | 48 | | | 3 | | 50 37.5 36.7 |
| 59 | 9.43990 | | 9.45702 | | 0.54298 | 9.98288 | | 1 | |
| | | 44 | | 48 | | | 4 | | |
| **60** | **9.44034** | | **9.45750** | | **0.54250** | **9.98284** | | **0** | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 16°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.44034 | | 9.45750 | | 0.54250 | 9.98284 | | 60 | |
| | | 44 | | 47 | | | 3 | | |
| 1 | 9.44078 | | 9.45797 | | 0.54203 | 9.98281 | | 59 | |
| | | 44 | | 48 | | | 4 | | |
| 2 | 9.44122 | | 9.45845 | | 0.54155 | 9.98277 | | 58 | |
| | | 44 | | 47 | | | 4 | | 48 47 |
| 3 | 9.44166 | | 9.45892 | | 0.54108 | 9.98273 | | 57 | 1 0.8 0.8 |
| | | 44 | | 48 | | | 3 | | 2 1.6 1.6 |
| 4 | 9.44210 | | 9.45940 | | 0.54060 | 9.98270 | | 56 | 3 2.4 2.4 |
| | | 43 | | 47 | | | 4 | | 4 3.2 3.1 |
| 5 | 9.44253 | | 9.45987 | | 0.54013 | 9.98266 | | 55 | 5 4.0 3.9 |
| | | 44 | | 48 | | | 4 | | 6 4.8 4.7 |
| 6 | 9.44297 | | 9.46035 | | 0.53965 | 9.98262 | | 54 | 7 5.6 5.5 |
| | | 44 | | 47 | | | 3 | | 8 6.4 6.3 |
| 7 | 9.44341 | | 9.46082 | | 0.53918 | 9.98259 | | 53 | 9 7.2 7.1 |
| | | 44 | | 48 | | | 4 | | 10 8.0 7.8 |
| 8 | 9.44385 | | 9.46130 | | 0.53870 | 9.98255 | | 52 | 20 16.0 15.7 |
| | | 43 | | 47 | | | 4 | | 30 24.0 23.5 |
| 9 | 9.44428 | | 9.46177 | | 0.53823 | 9.98251 | | 51 | 40 32.0 31.3 |
| | | 44 | | 47 | | | 3 | | 50 40.0 39.2 |
| 10 | 9.44472 | | 9.46224 | | 0.53776 | 9.98248 | | 50 | |
| | | 44 | | 47 | | | 4 | | |
| 11 | 9.44516 | | 9.46271 | | 0.53729 | 9.98244 | | 49 | |
| | | 43 | | 48 | | | 4 | | |
| 12 | 9.44559 | | 9.46319 | | 0.53681 | 9.98240 | | 48 | 46 45 |
| | | 43 | | 47 | | | 3 | | 1 0.8 0.8 |
| 13 | 9.44602 | | 9.46366 | | 0.53634 | 9.98237 | | 47 | 2 1.5 1.5 |
| | | 44 | | 47 | | | 4 | | 3 2.3 2.3 |
| 14 | 9.44646 | | 9.46413 | | 0.53587 | 9.98233 | | 46 | 4 3.1 3.0 |
| | | 43 | | 47 | | | 4 | | 5 3.8 3.8 |
| 15 | 9.44689 | | 9.46460 | | 0.53540 | 9.98229 | | 45 | 6 4.6 4.5 |
| | | 44 | | 47 | | | 3 | | 7 5.4 5.3 |
| 16 | 9.44733 | | 9.46507 | | 0.53493 | 9.98226 | | 44 | 8 6.1 6.0 |
| | | 43 | | 47 | | | 4 | | 9 6.9 6.8 |
| 17 | 9.44776 | | 9.46554 | | 0.53446 | 9.98222 | | 43 | 10 7.7 7.5 |
| | | 43 | | 47 | | | 4 | | 20 15.3 15.0 |
| 18 | 9.44819 | | 9.46601 | | 0.53399 | 9.98218 | | 42 | 30 23.0 22.5 |
| | | 43 | | 47 | | | 3 | | 40 30.7 30.0 |
| 19 | 9.44862 | | 9.46648 | | 0.53352 | 9.98215 | | 41 | 50 38.3 37.5 |
| | | 43 | | 46 | | | 4 | | |
| 20 | 9.44905 | | 9.46694 | | 0.53306 | 9.98211 | | 40 | |
| | | 43 | | 47 | | | 4 | | |
| 21 | 9.44948 | | 9.46741 | | 0.53259 | 9.98207 | | 39 | 44 43 |
| | | 44 | | 47 | | | 3 | | 1 0.7 0.7 |
| 22 | 9.44992 | | 9.46788 | | 0.53212 | 9.98204 | | 38 | 2 1.5 1.4 |
| | | 43 | | 47 | | | 4 | | 3 2.2 2.2 |
| 23 | 9.45035 | | 9.46835 | | 0.53165 | 9.98200 | | 37 | 4 2.9 2.9 |
| | | 42 | | 46 | | | 4 | | 5 3.7 3.6 |
| 24 | 9.45077 | | 9.46881 | | 0.53119 | 9.98196 | | 36 | 6 4.4 4.3 |
| | | 43 | | 47 | | | 4 | | 7 5.1 5.0 |
| 25 | 9.45120 | | 9.46928 | | 0.53072 | 9.98192 | | 35 | 8 5.9 5.7 |
| | | 43 | | 47 | | | 3 | | 9 6.6 6.5 |
| 26 | 9.45163 | | 9.46975 | | 0.53025 | 9.98189 | | 34 | 10 7.3 7.2 |
| | | 43 | | 46 | | | 4 | | 20 14.7 14.3 |
| 27 | 9.45206 | | 9.47021 | | 0.52979 | 9.98185 | | 33 | 30 22.0 21.5 |
| | | 43 | | 47 | | | 4 | | 40 29.3 28.7 |
| 28 | 9.45249 | | 9.47068 | | 0.52932 | 9.98181 | | 32 | 50 36.7 35.8 |
| | | 43 | | 46 | | | 4 | | |
| 29 | 9.45292 | | 9.47114 | | 0.52886 | 9.98177 | | 31 | |
| | | 42 | | 46 | | | 3 | | |
| 30 | 9.45334 | | 9.47160 | | 0.52840 | 9.98174 | | 30 | |
| | | 43 | | 47 | | | 4 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 73°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 30 | 9.45334 | | 9.47160 | | 0.52840 | 9.98174 | | 30 | |
| | | 43 | | 47 | | | 4 | | |
| 31 | 9.45377 | | 9.47207 | | 0.52793 | 9.98170 | | 29 | |
| | | 42 | | 46 | | | 4 | | |
| 32 | 9.45419 | | 9.47253 | | 0.52747 | 9.98166 | | 28 | |
| | | 43 | | 46 | | | 4 | | |
| 33 | 9.45462 | | 9.47299 | | 0.52701 | 9.98162 | | 27 | 46 45 |
| | | 42 | | 47 | | | 3 | | 1 0.8 0.8 |
| 34 | 9.45504 | | 9.47346 | | 0.52654 | 9.98159 | | 26 | 2 1.5 1.5 |
| | | 43 | | 46 | | | 4 | | 3 2.3 2.3 |
| 35 | 9.45547 | | 9.47392 | | 0.52608 | 9.98155 | | 25 | 4 3.1 3.0 |
| | | 42 | | 46 | | | 4 | | 5 3.8 3.8 |
| 36 | 9.45589 | | 9.47438 | | 0.52562 | 9.98151 | | 24 | 6 4.6 4.5 |
| | | 43 | | 46 | | | 4 | | 7 5.4 5.3 |
| 37 | 9.45632 | | 9.47484 | | 0.52516 | 9.98147 | | 23 | 8 6.1 6.0 |
| | | 42 | | 46 | | | 3 | | 9 6.9 6.8 |
| 38 | 9.45674 | | 9.47530 | | 0.52470 | 9.98144 | | 22 | 10 7.7 7.5 |
| | | 42 | | 46 | | | 4 | | 20 15.3 15.0 |
| 39 | 9.45716 | | 9.47576 | | 0.52424 | 9.98140 | | 21 | 30 23.0 22.5 |
| | | 42 | | 46 | | | 4 | | 40 30.7 30.0 |
| 40 | 9.45758 | | 9.47622 | | 0.52378 | 9.98136 | | 20 | 50 38.3 37.5 |
| | | 43 | | 46 | | | 4 | | |
| 41 | 9.45801 | | 9.47668 | | 0.52332 | 9.98132 | | 19 | |
| | | 42 | | 46 | | | 3 | | |
| 42 | 9.45843 | | 9.47714 | | 0.52286 | 9.98129 | | 18 | 44 43 |
| | | 42 | | 46 | | | 4 | | 1 0.7 0.7 |
| 43 | 9.45885 | | 9.47760 | | 0.52240 | 9.98125 | | 17 | 2 1.5 1.4 |
| | | 42 | | 46 | | | 4 | | 3 2.2 2.2 |
| 44 | 9.45927 | | 9.47806 | | 0.52194 | 9.98121 | | 16 | 4 2.9 2.9 |
| | | 42 | | 46 | | | 4 | | 5 3.7 3.6 |
| 45 | 9.45969 | | 9.47852 | | 0.52148 | 9.98117 | | 15 | 6 4.4 4.3 |
| | | 42 | | 45 | | | 4 | | 7 5.1 5.0 |
| 46 | 9.46011 | | 9.47897 | | 0.52103 | 9.98113 | | 14 | 8 5.9 5.7 |
| | | 42 | | 46 | | | 3 | | 9 6.6 6.5 |
| 47 | 9.46053 | | 9.47943 | | 0.52057 | 9.98110 | | 13 | 10 7.3 7.2 |
| | | 42 | | 46 | | | 4 | | 20 14.7 14.3 |
| 48 | 9.46095 | | 9.47989 | | 0.52011 | 9.98106 | | 12 | 30 22.0 21.5 |
| | | 41 | | 46 | | | 4 | | 40 29.3 28.7 |
| 49 | 9.46136 | | 9.48035 | | 0.51965 | 9.98102 | | 11 | 50 36.7 35.8 |
| | | 42 | | 45 | | | 4 | | |
| 50 | 9.46178 | | 9.48080 | | 0.51920 | 9.98098 | | 10 | |
| | | 42 | | 46 | | | 4 | | |
| 51 | 9.46220 | | 9.48126 | | 0.51874 | 9.98094 | | 9 | 42 41 |
| | | 42 | | 45 | | | 4 | | 1 0.7 0.7 |
| 52 | 9.46262 | | 9.48171 | | 0.51829 | 9.98090 | | 8 | 2 1.4 1.4 |
| | | 41 | | 46 | | | 3 | | 3 2.1 2.1 |
| 53 | 9.46303 | | 9.48217 | | 0.51783 | 9.98087 | | 7 | 4 2.8 2.7 |
| | | 42 | | 45 | | | 4 | | 5 3.5 3.4 |
| 54 | 9.46345 | | 9.48262 | | 0.51738 | 9.98083 | | 6 | 6 4.2 4.1 |
| | | 41 | | 45 | | | 4 | | 7 4.9 4.8 |
| 55 | 9.46386 | | 9.48307 | | 0.51693 | 9.98079 | | 5 | 8 5.6 5.5 |
| | | 42 | | 46 | | | 4 | | 9 6.3 6.2 |
| 56 | 9.46428 | | 9.48353 | | 0.51647 | 9.98075 | | 4 | 10 7.0 6.8 |
| | | 41 | | 45 | | | 4 | | 20 14.0 13.7 |
| 57 | 9.46469 | | 9.48398 | | 0.51602 | 9.98071 | | 3 | 30 21.0 20.5 |
| | | 42 | | 45 | | | 4 | | 40 28.0 27.3 |
| 58 | 9.46511 | | 9.48443 | | 0.51557 | 9.98067 | | 2 | 50 35.0 34.2 |
| | | 41 | | 46 | | | 4 | | |
| 59 | 9.46552 | | 9.48489 | | 0.51511 | 9.98063 | | 1 | |
| | | 42 | | 45 | | | 3 | | |
| 60 | 9.46594 | | 9.48534 | | 0.51466 | 9.98060 | | 0 | |
| | | 41 | | 45 | | | 4 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 17°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.46594 | 41 | 9.48534 | 45 | 0.51466 | 9.98060 | 4 | 60 | |
| 1 | 9.46635 | 41 | 9.48579 | 45 | 0.51421 | 9.98056 | 4 | 59 | |
| 2 | 9.46676 | 41 | 9.48624 | 45 | 0.51376 | 9.98052 | 4 | 58 | |
| 3 | 9.46717 | 41 | 9.48669 | 45 | 0.51331 | 9.98048 | 4 | 57 | |
| 4 | 9.46758 | 42 | 9.48714 | 45 | 0.51286 | 9.98044 | 4 | 56 | |
| 5 | 9.46800 | 41 | 9.48759 | 45 | 0.51241 | 9.98040 | 4 | 55 | |
| 6 | 9.46841 | 41 | 9.48804 | 45 | 0.51196 | 9.98036 | 4 | 54 | |
| 7 | 9.46882 | 41 | 9.48849 | 45 | 0.51151 | 9.98032 | 3 | 53 | |
| 8 | 9.46923 | 41 | 9.48894 | 45 | 0.51106 | 9.98029 | 4 | 52 | |
| 9 | 9.46964 | 41 | 9.48939 | 45 | 0.51061 | 9.98025 | 4 | 51 | |
| 10 | 9.47005 | 40 | 9.48984 | 45 | 0.51016 | 9.98021 | 4 | 50 | |
| 11 | 9.47045 | 41 | 9.49029 | 44 | 0.50971 | 9.98017 | 4 | 49 | |
| 12 | 9.47086 | 41 | 9.49073 | 45 | 0.50927 | 9.98013 | 4 | 48 | |
| 13 | 9.47127 | 41 | 9.49118 | 45 | 0.50882 | 9.98009 | 4 | 47 | |
| 14 | 9.47168 | 41 | 9.49163 | 44 | 0.50837 | 9.98005 | 4 | 46 | |
| 15 | 9.47209 | 40 | 9.49207 | 45 | 0.50793 | 9.98001 | 4 | 45 | |
| 16 | 9.47249 | 41 | 9.49252 | 44 | 0.50748 | 9.97997 | 4 | 44 | |
| 17 | 9.47290 | 40 | 9.49296 | 45 | 0.50704 | 9.97993 | 4 | 43 | |
| 18 | 9.47330 | 41 | 9.49341 | 44 | 0.50659 | 9.97989 | 4 | 42 | |
| 19 | 9.47371 | 40 | 9.49385 | 45 | 0.50615 | 9.97986 | 3 | 41 | |
| 20 | 9.47411 | 41 | 9.49430 | 44 | 0.50570 | 9.97982 | 4 | 40 | |
| 21 | 9.47452 | 40 | 9.49474 | 45 | 0.50526 | 9.97978 | 4 | 39 | |
| 22 | 9.47492 | 41 | 9.49519 | 44 | 0.50481 | 9.97974 | 4 | 38 | |
| 23 | 9.47533 | 40 | 9.49563 | 44 | 0.50437 | 9.97970 | 4 | 37 | |
| 24 | 9.47573 | 40 | 9.49607 | 45 | 0.50393 | 9.97966 | 4 | 36 | |
| 25 | 9.47613 | 41 | 9.49652 | 44 | 0.50348 | 9.97962 | 4 | 35 | |
| 26 | 9.47654 | 40 | 9.49696 | 44 | 0.50304 | 9.97958 | 4 | 34 | |
| 27 | 9.47694 | 40 | 9.49740 | 44 | 0.50260 | 9.97954 | 4 | 33 | |
| 28 | 9.47734 | 40 | 9.49784 | 44 | 0.50216 | 9.97950 | 4 | 32 | |
| 29 | 9.47774 | 40 | 9.49828 | 44 | 0.50172 | 9.97946 | 4 | 31 | |
| 30 | 9.47814 | 40 | 9.49872 | 44 | 0.50128 | 9.97942 | 4 | 30 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| | 45 | 44 |
|---|---|---|
| 1 | 0.8 | 0.7 |
| 2 | 1.5 | 1.5 |
| 3 | 2.3 | 2.2 |
| 4 | 3.0 | 2.9 |
| 5 | 3.8 | 3.7 |
| 6 | 4.5 | 4.4 |
| 7 | 5.3 | 5.1 |
| 8 | 6.0 | 5.9 |
| 9 | 6.8 | 6.6 |
| 10 | 7.5 | 7.3 |
| 20 | 15.0 | 14.7 |
| 30 | 22.5 | 22.0 |
| 40 | 30.0 | 29.3 |
| 50 | 37.5 | 36.7 |

| | 43 | 42 |
|---|---|---|
| 1 | 0.7 | 0.7 |
| 2 | 1.4 | 1.4 |
| 3 | 2.2 | 2.1 |
| 4 | 2.9 | 2.8 |
| 5 | 3.6 | 3.5 |
| 6 | 4.3 | 4.2 |
| 7 | 5.0 | 4.9 |
| 8 | 5.7 | 5.6 |
| 9 | 6.5 | 6.3 |
| 10 | 7.2 | 7.0 |
| 20 | 14.3 | 14.0 |
| 30 | 21.5 | 21.0 |
| 40 | 28.7 | 28.0 |
| 50 | 35.8 | 35.0 |

| | 41 | 40 |
|---|---|---|
| 1 | 0.7 | 0.7 |
| 2 | 1.4 | 1.3 |
| 3 | 2.1 | 2.0 |
| 4 | 2.7 | 2.7 |
| 5 | 3.4 | 3.3 |
| 6 | 4.1 | 4.0 |
| 7 | 4.8 | 4.7 |
| 8 | 5.5 | 5.3 |
| 9 | 6.2 | 6.0 |
| 10 | 6.8 | 6.7 |
| 20 | 13.7 | 13.3 |
| 30 | 20.5 | 20.0 |
| 40 | 27.3 | 26.7 |
| 50 | 34.2 | 33.3 |

# 72°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.47814** | | **9.49872** | | **0.50128** | **9.97942** | | **30** | |
| | | 40 | | 44 | | | 4 | | |
| 31 | 9.47854 | | 9.49916 | | 0.50084 | 9.97938 | | 29 | 44 43 |
| | | 40 | | 44 | | | 4 | | |
| 32 | 9.47894 | | 9.49960 | | 0.50040 | 9.97934 | | 28 | 1 0.7 0.7 |
| | | 40 | | 44 | | | 4 | | 2 1.5 1.4 |
| 33 | 9.47934 | | 9.50004 | | 0.49996 | 9.97930 | | 27 | 3 2.2 2.2 |
| | | 40 | | 44 | | | 4 | | 4 2.9 2.9 |
| 34 | 9.47974 | | 9.50048 | | 0.49952 | 9.97926 | | 26 | 5 3.7 3.6 |
| | | 40 | | 44 | | | 4 | | 6 4.4 4.3 |
| **35** | **9.48014** | | **9.50092** | | **0.49908** | **9.97922** | | **25** | 7 5.1 5.0 |
| | | 40 | | 44 | | | 4 | | 8 5.9 5.7 |
| 36 | 9.48054 | | 9.50136 | | 0.49864 | 9.97918 | | 24 | 9 6.6 6.5 |
| | | 40 | | 44 | | | 4 | | 10 7.3 7.2 |
| 37 | 9.48094 | | 9.50180 | | 0.49820 | 9.97914 | | 23 | 20 14.7 14.3 |
| | | 39 | | 43 | | | 4 | | 30 22.0 21.5 |
| 38 | 9.48133 | | 9.50223 | | 0.49777 | 9.97910 | | 22 | 40 29.3 28.7 |
| | | 40 | | 44 | | | 4 | | 50 36.7 35.8 |
| 39 | 9.48173 | | 9.50267 | | 0.49733 | 9.97906 | | 21 | |
| | | 40 | | 44 | | | 4 | | |
| **40** | **9.48213** | | **9.50311** | | **0.49689** | **9.97902** | | **20** | 42 41 |
| | | 39 | | 44 | | | 4 | | 1 0.7 0.7 |
| 41 | 9.48252 | | 9.50355 | | 0.49645 | 9.97898 | | 19 | 2 1.4 1.4 |
| | | 40 | | 43 | | | 4 | | 3 2.1 2.1 |
| 42 | 9.48292 | | 9.50398 | | 0.49602 | 9.97894 | | 18 | 4 2.8 2.7 |
| | | 40 | | 44 | | | 4 | | 5 3.5 3.4 |
| 43 | 9.48332 | | 9.50442 | | 0.49558 | 9.97890 | | 17 | 6 4.2 4.1 |
| | | 39 | | 43 | | | 4 | | 7 4.9 4.8 |
| 44 | 9.48371 | | 9.50485 | | 0.49515 | 9.97886 | | 16 | 8 5.6 5.5 |
| | | 40 | | 44 | | | 4 | | 9 6.3 6.2 |
| **45** | **9.48411** | | **9.50529** | | **0.49471** | **9.97882** | | **15** | 10 7.0 6.8 |
| | | 39 | | 43 | | | 4 | | 20 14.0 13.7 |
| 46 | 9.48450 | | 9.50572 | | 0.49428 | 9.97878 | | 14 | 30 21.0 20.5 |
| | | 40 | | 44 | | | 4 | | 40 28.0 27.3 |
| 47 | 9.48490 | | 9.50616 | | 0.49384 | 9.97874 | | 13 | 50 35.0 34.2 |
| | | 39 | | 43 | | | 4 | | |
| 48 | 9.48529 | | 9.50659 | | 0.49341 | 9.97870 | | 12 | |
| | | 39 | | 44 | | | 4 | | 40 39 |
| 49 | 9.48568 | | 9.50703 | | 0.49297 | 9.97866 | | 11 | 1 0.7 0.7 |
| | | 39 | | 43 | | | 5 | | 2 1.3 1.3 |
| **50** | **9.48607** | | **9.50746** | | **0.49254** | **9.97861** | | **10** | 3 2.0 2.0 |
| | | 40 | | 43 | | | 4 | | 4 2.7 2.6 |
| 51 | 9.48647 | | 9.50789 | | 0.49211 | 9.97857 | | 9 | 5 3.3 3.3 |
| | | 39 | | 44 | | | 4 | | 6 4.0 3.9 |
| 52 | 9.48686 | | 9.50833 | | 0.49167 | 9.97853 | | 8 | 7 4.7 4.6 |
| | | 39 | | 43 | | | 4 | | 8 5.3 5.2 |
| 53 | 9.48725 | | 9.50876 | | 0.49124 | 9.97849 | | 7 | 9 6.0 5.9 |
| | | 39 | | 43 | | | 4 | | 10 6.7 6.5 |
| 54 | 9.48764 | | 9.50919 | | 0.49081 | 9.97845 | | 6 | 20 13.3 13.0 |
| | | 39 | | 43 | | | 4 | | 30 20.0 19.5 |
| **55** | **9.48803** | | **9.50962** | | **0.49038** | **9.97841** | | **5** | 40 26.7 26.0 |
| | | 39 | | 43 | | | 4 | | 50 33.3 32.5 |
| 56 | 9.48842 | | 9.51005 | | 0.48995 | 9.97837 | | 4 | |
| | | 39 | | 43 | | | 4 | | 4 5 |
| 57 | 9.48881 | | 9.51048 | | 0.48952 | 9.97833 | | 3 | 10 0.7 0.8 |
| | | 39 | | 44 | | | 4 | | 20 1.3 1.7 |
| 58 | 9.48920 | | 9.51092 | | 0.48908 | 9.97829 | | 2 | 30 2.0 2.5 |
| | | 39 | | 43 | | | 4 | | 40 2.7 3.3 |
| 59 | 9.48959 | | 9.51135 | | 0.48865 | 9.97825 | | 1 | 50 3.3 4.2 |
| | | 39 | | 43 | | | 4 | | |
| **60** | **9.48998** | | **9.51178** | | **0.48822** | **9.97821** | | **0** | |
| | | 39 | | 43 | | | 4 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 18°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.48998 | | 9.51178 | | 0.48822 | 9.97821 | | 60 | |
| | | 39 | | 43 | | | 4 | | |
| 1 | 9.49037 | | 9.51221 | | 0.48779 | 9.97817 | | 59 | 43 42 |
| | | 39 | | 43 | | | 5 | | 1 0.7 0.7 |
| 2 | 9.49076 | | 9.51264 | | 0.48736 | 9.97812 | | 58 | 2 1.4 1.4 |
| | | 39 | | 42 | | | 4 | | 3 2.2 2.1 |
| 3 | 9.49115 | | 9.51306 | | 0.48694 | 9.97808 | | 57 | 4 2.9 2.8 |
| | | 38 | | 43 | | | 4 | | 5 3.6 3.5 |
| 4 | 9.49153 | | 9.51349 | | 0.48651 | 9.97804 | | 56 | 6 4.3 4.2 |
| | | 39 | | 43 | | | 4 | | 7 5.0 4.9 |
| 5 | 9.49192 | | 9.51392 | | 0.48608 | 9.97800 | | 55 | 8 5.7 5.6 |
| | | 39 | | 43 | | | 4 | | 9 6.5 6.3 |
| 6 | 9.49231 | | 9.51435 | | 0.48565 | 9.97796 | | 54 | 10 7.2 7.0 |
| | | 38 | | 43 | | | 4 | | 20 14.3 14.0 |
| 7 | 9.49269 | | 9.51478 | | 0.48522 | 9.97792 | | 53 | 30 21.5 21.0 |
| | | 39 | | 42 | | | 4 | | 40 28.7 28.0 |
| 8 | 9.49308 | | 9.51520 | | 0.48480 | 9.97788 | | 52 | 50 35.8 35.0 |
| | | 39 | | 43 | | | 4 | | |
| 9 | 9.49347 | | 9.51563 | | 0.48437 | 9.97784 | | 51 | |
| | | 38 | | 43 | | | 5 | | |
| 10 | 9.49385 | | 9.51606 | | 0.48394 | 9.97779 | | 50 | 41 39 |
| | | 39 | | 42 | | | 4 | | 1 0.7 0.7 |
| 11 | 9.49424 | | 9.51648 | | 0.48352 | 9.97775 | | 49 | 2 1.4 1.3 |
| | | 38 | | 43 | | | 4 | | 3 2.1 2.0 |
| 12 | 9.49462 | | 9.51691 | | 0.48309 | 9.97771 | | 48 | 4 2.7 2.6 |
| | | 38 | | 43 | | | 4 | | 5 3.4 3.3 |
| 13 | 9.49500 | | 9.51734 | | 0.48266 | 9.97767 | | 47 | 6 4.1 3.9 |
| | | 39 | | 42 | | | 4 | | 7 4.8 4.6 |
| 14 | 9.49539 | | 9.51776 | | 0.48224 | 9.97763 | | 46 | 8 5.5 5.2 |
| | | 38 | | 43 | | | 4 | | 9 6.2 5.9 |
| 15 | 9.49577 | | 9.51819 | | 0.48181 | 9.97759 | | 45 | 10 6.8 6.5 |
| | | 38 | | 42 | | | 5 | | 20 13.7 13.0 |
| 16 | 9.49615 | | 9.51861 | | 0.48139 | 9.97754 | | 44 | 30 20.5 19.5 |
| | | 39 | | 42 | | | 4 | | 40 27.3 26.0 |
| 17 | 9.49654 | | 9.51903 | | 0.48097 | 9.97750 | | 43 | 50 34.2 32.5 |
| | | 38 | | 43 | | | 4 | | |
| 18 | 9.49692 | | 9.51946 | | 0.48054 | 9.97746 | | 42 | |
| | | 38 | | 42 | | | 4 | | 38 37 |
| 19 | 9.49730 | | 9.51988 | | 0.48012 | 9.97742 | | 41 | 1 0.6 0.6 |
| | | 38 | | 43 | | | 4 | | 2 1.3 1.2 |
| 20 | 9.49768 | | 9.52031 | | 0.47969 | 9.97738 | | 40 | 3 1.9 1.9 |
| | | 38 | | 42 | | | 4 | | 4 2.5 2.5 |
| 21 | 9.49806 | | 9.52073 | | 0.47927 | 9.97734 | | 39 | 5 3.2 3.1 |
| | | 38 | | 42 | | | 5 | | 6 3.8 3.7 |
| 22 | 9.49844 | | 9.52115 | | 0.47885 | 9.97729 | | 38 | 7 4.4 4.3 |
| | | 38 | | 42 | | | 4 | | 8 5.1 4.9 |
| 23 | 9.49882 | | 9.52157 | | 0.47843 | 9.97725 | | 37 | 9 5.7 5.6 |
| | | 38 | | 43 | | | 4 | | 10 6.3 6.2 |
| 24 | 9.49920 | | 9.52200 | | 0.47800 | 9.97721 | | 36 | 20 12.7 12.3 |
| | | 38 | | 42 | | | 4 | | 30 19.0 18.5 |
| 25 | 9.49958 | | 9.52242 | | 0.47758 | 9.97717 | | 35 | 40 25.3 24.7 |
| | | 38 | | 42 | | | 4 | | 50 31.7 30.8 |
| 26 | 9.49996 | | 9.52284 | | 0.47716 | 9.97713 | | 34 | |
| | | 38 | | 42 | | | 5 | | 4 5 |
| 27 | 9.50034 | | 9.52326 | | 0.47674 | 9.97708 | | 33 | 10 0.7 0.8 |
| | | 38 | | 42 | | | 4 | | 20 1.3 1.7 |
| 28 | 9.50072 | | 9.52368 | | 0.47632 | 9.97704 | | 32 | 30 2.0 2.5 |
| | | 38 | | 42 | | | 4 | | 40 2.7 3.3 |
| 29 | 9.50110 | | 9.52410 | | 0.47590 | 9.97700 | | 31 | 50 3.3 4.2 |
| | | 38 | | 42 | | | 4 | | |
| 30 | 9.50148 | | 9.52452 | | 0.47548 | 9.97696 | | 30 | |
| | | 37 | | 42 | | | 5 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.50148** | | **9.52452** | | **0.47548** | **9.97696** | | 30 | |
| | | 37 | | 42 | | | 5 | | |
| 31 | 9.50185 | | 9.52494 | | 0.47506 | 9.97691 | | 29 | 42 41 |
| | | 38 | | 42 | | | 4 | | 1 0.7 0.7 |
| 32 | 9.50223 | | 9.52536 | | 0.47464 | 9.97687 | | 28 | 2 1.4 1.4 |
| | | 38 | | 42 | | | 4 | | 3 2.1 2.1 |
| 33 | 9.50261 | | 9.52578 | | 0.47422 | 9.97683 | | 27 | 4 2.8 2.7 |
| | | 37 | | 42 | | | 4 | | 5 3.5 3.4 |
| 34 | 9.50298 | | 9.52620 | | 0.47380 | 9.97679 | | 26 | 6 4.2 4.1 |
| | | 38 | | 41 | | | 5 | | 7 4.9 4.8 |
| **35** | **9.50336** | | **9.52661** | | **0.47339** | **9.97674** | | 25 | 8 5.6 5.5 |
| | | 38 | | 42 | | | 4 | | 9 6.3 6.2 |
| 36 | 9.50374 | | 9.52703 | | 0.47297 | 9.97670 | | 24 | 10 7.0 6.8 |
| | | 37 | | 42 | | | 4 | | 20 14.0 13.7 |
| 37 | 9.50411 | | 9.52745 | | 0.47255 | 9.97666 | | 23 | 30 21.0 20.5 |
| | | 38 | | 42 | | | 4 | | 40 28.0 27.3 |
| 38 | 9.50449 | | 9.52787 | | 0.47213 | 9.97662 | | 22 | 50 35.0 34.2 |
| | | 37 | | 42 | | | 5 | | |
| 39 | 9.50486 | | 9.52829 | | 0.47171 | 9.97657 | | 21 | |
| | | 37 | | 41 | | | 4 | | |
| **40** | **9.50523** | | **9.52870** | | **0.47130** | **9.97653** | | 20 | 39 38 |
| | | 38 | | 42 | | | 4 | | 1 0.7 0.6 |
| 41 | 9.50561 | | 9.52912 | | 0.47088 | 9.97649 | | 19 | 2 1.3 1.3 |
| | | 37 | | 41 | | | 4 | | 3 2.0 1.9 |
| 42 | 9.50598 | | 9.52953 | | 0.47047 | 9.97645 | | 18 | 4 2.6 2.5 |
| | | 37 | | 42 | | | 5 | | 5 3.3 3.2 |
| 43 | 9.50635 | | 9.52995 | | 0.47005 | 9.97640 | | 17 | 6 3.9 3.8 |
| | | 38 | | 42 | | | 4 | | 7 4.6 4.4 |
| 44 | 9.50673 | | 9.53037 | | 0.46963 | 9.97636 | | 16 | 8 5.2 5.1 |
| | | 37 | | 41 | | | 4 | | 9 5.9 5.7 |
| **45** | **9.50710** | | **9.53078** | | **0.46922** | **9.97632** | | 15 | 10 6.5 6.3 |
| | | 37 | | 42 | | | 4 | | 20 13.0 12.7 |
| 46 | 9.50747 | | 9.53120 | | 0.46880 | 9.97628 | | 14 | 30 19.5 19.0 |
| | | 37 | | 41 | | | 5 | | 40 26.0 25.3 |
| 47 | 9.50784 | | 9.53161 | | 0.46839 | 9.97623 | | 13 | 50 32.5 31.7 |
| | | 37 | | 41 | | | 4 | | |
| 48 | 9.50821 | | 9.53202 | | 0.46798 | 9.97619 | | 12 | |
| | | 37 | | 42 | | | 4 | | 37 36 |
| 49 | 9.50858 | | 9.53244 | | 0.46756 | 9.97615 | | 11 | 1 0.6 0.6 |
| | | 38 | | 41 | | | 5 | | 2 1.2 1.2 |
| **50** | **9.50896** | | **9.53285** | | **0.46715** | **9.97610** | | 10 | 3 1.9 1.8 |
| | | 37 | | 42 | | | 4 | | 4 2.5 2.4 |
| 51 | 9.50933 | | 9.53327 | | 0.46673 | 9.97606 | | 9 | 5 3.1 3.0 |
| | | 37 | | 41 | | | 4 | | 6 3.7 3.6 |
| 52 | 9.50970 | | 9.53368 | | 0.46632 | 9.97602 | | 8 | 7 4.3 4.2 |
| | | 37 | | 41 | | | 5 | | 8 4.9 4.8 |
| 53 | 9.51007 | | 9.53409 | | 0.46591 | 9.97597 | | 7 | 9 5.6 5.4 |
| | | 36 | | 41 | | | 4 | | 10 6.2 6.0 |
| 54 | 9.51043 | | 9.53450 | | 0.46550 | 9.97593 | | 6 | 20 12.3 12.0 |
| | | 37 | | 42 | | | 4 | | 30 18.5 18.0 |
| **55** | **9.51080** | | **9.53492** | | **0.46508** | **9.97589** | | 5 | 40 24.7 24.0 |
| | | 37 | | 41 | | | 5 | | 50 30.8 30.0 |
| 56 | 9.51117 | | 9.53533 | | 0.46467 | 9.97584 | | 4 | |
| | | 37 | | 41 | | | 4 | | 4 5 |
| 57 | 9.51154 | | 9.53574 | | 0.46426 | 9.97580 | | 3 | 10 0.7 0.8 |
| | | 37 | | 41 | | | 4 | | 20 1.3 1.7 |
| 58 | 9.51191 | | 9.53615 | | 0.46385 | 9.97576 | | 2 | 30 2.0 2.5 |
| | | 36 | | 41 | | | 5 | | 40 2.7 3.3 |
| 59 | 9.51227 | | 9.53656 | | 0.46344 | 9.97571 | | 1 | 50 3.3 4.2 |
| | | 37 | | 41 | | | 4 | | |
| **60** | **9.51264** | | **9.53697** | | **0.46303** | **9.97567** | | 0 | |
| | | 37 | | 41 | | | 4 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 19°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **9.51264** | | **9.53697** | | **0.46303** | **9.97567** | | 60 | |
| | | 37 | | 41 | | | 4 | | |
| 1 | 9.51301 | | 9.53738 | | 0.46262 | 9.97563 | | 59 | |
| | | 37 | | 41 | | | 5 | | |
| 2 | 9.51338 | | 9.53779 | | 0.46221 | 9.97558 | | 58 | |
| | | 36 | | 41 | | | 4 | | |
| 3 | 9.51374 | | 9.53820 | | 0.46180 | 9.97554 | | 57 | |
| | | 37 | | 41 | | | 4 | | |
| 4 | 9.51411 | | 9.53861 | | 0.46139 | 9.97550 | | 56 | |
| | | 36 | | 41 | | | 5 | | |
| **5** | **9.51447** | | **9.53902** | | **0.46098** | **9.97545** | | 55 | |
| | | 37 | | 41 | | | 4 | | |
| 6 | 9.51484 | | 9.53943 | | 0.46057 | 9.97541 | | 54 | |
| | | 36 | | 41 | | | 5 | | |
| 7 | 9.51520 | | 9.53984 | | 0.46016 | 9.97536 | | 53 | |
| | | 37 | | 41 | | | 4 | | |
| 8 | 9.51557 | | 9.54025 | | 0.45975 | 9.97532 | | 52 | |
| | | 36 | | 40 | | | 4 | | |
| 9 | 9.51593 | | 9.54065 | | 0.45935 | 9.97528 | | 51 | |
| | | 36 | | 41 | | | 5 | | |
| **10** | **9.51629** | | **9.54106** | | **0.45894** | **9.97523** | | 50 | |
| | | 37 | | 41 | | | 4 | | |
| 11 | 9.51666 | | 9.54147 | | 0.45853 | 9.97519 | | 49 | |
| | | 36 | | 40 | | | 4 | | |
| 12 | 9.51702 | | 9.54187 | | 0.45813 | 9.97515 | | 48 | |
| | | 36 | | 41 | | | 5 | | |
| 13 | 9.51738 | | 9.54228 | | 0.45772 | 9.97510 | | 47 | |
| | | 36 | | 41 | | | 4 | | |
| 14 | 9.51774 | | 9.54269 | | 0.45731 | 9.97506 | | 46 | |
| | | 37 | | 40 | | | 5 | | |
| **15** | **9.51811** | | **9.54309** | | **0.45691** | **9.97501** | | 45 | |
| | | 36 | | 41 | | | 4 | | |
| 16 | 9.51847 | | 9.54350 | | 0.45650 | 9.97497 | | 44 | |
| | | 36 | | 40 | | | 5 | | |
| 17 | 9.51883 | | 9.54390 | | 0.45610 | 9.97492 | | 43 | |
| | | 36 | | 41 | | | 4 | | |
| 18 | 9.51919 | | 9.54431 | | 0.45569 | 9.97488 | | 42 | |
| | | 36 | | 40 | | | 4 | | |
| 19 | 9.51955 | | 9.54471 | | 0.45529 | 9.97484 | | 41 | |
| | | 36 | | 41 | | | 5 | | |
| **20** | **9.51991** | | **9.54512** | | **0.45488** | **9.97479** | | 40 | |
| | | 36 | | 40 | | | 4 | | |
| 21 | 9.52027 | | 9.54552 | | 0.45448 | 9.97475 | | 39 | |
| | | 36 | | 41 | | | 5 | | |
| 22 | 9.52063 | | 9.54593 | | 0.45407 | 9.97470 | | 38 | |
| | | 36 | | 40 | | | 4 | | |
| 23 | 9.52099 | | 9.54633 | | 0.45367 | 9.97466 | | 37 | |
| | | 36 | | 40 | | | 5 | | |
| 24 | 9.52135 | | 9.54673 | | 0.45327 | 9.97461 | | 36 | |
| | | 36 | | 41 | | | 4 | | |
| **25** | **9.52171** | | **9.54714** | | **0.45286** | **9.97457** | | 35 | |
| | | 36 | | 40 | | | 4 | | |
| 26 | 9.52207 | | 9.54754 | | 0.45246 | 9.97453 | | 34 | |
| | | 35 | | 40 | | | 5 | | |
| 27 | 9.52242 | | 9.54794 | | 0.45206 | 9.97448 | | 33 | |
| | | 36 | | 41 | | | 4 | | |
| 28 | 9.52278 | | 9.54835 | | 0.45165 | 9.97444 | | 32 | |
| | | 36 | | 40 | | | 5 | | |
| 29 | 9.52314 | | 9.54875 | | 0.45125 | 9.97439 | | 31 | |
| | | 36 | | 40 | | | 4 | | |
| **30** | **9.52350** | | **9.54915** | | **0.45085** | **9.97435** | | 30 | |
| | | 35 | | 40 | | | 5 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| | 41 | 40 |
|---|---|---|
| 1 | 0.7 | 0.7 |
| 2 | 1.4 | 1.3 |
| 3 | 2.1 | 2.0 |
| 4 | 2.7 | 2.7 |
| 5 | 3.4 | 3.3 |
| 6 | 4.1 | 4.0 |
| 7 | 4.8 | 4.7 |
| 8 | 5.5 | 5.3 |
| 9 | 6.2 | 6.0 |
| 10 | 6.8 | 6.7 |
| 20 | 13.7 | 13.3 |
| 30 | 20.5 | 20.0 |
| 40 | 27.3 | 26.7 |
| 50 | 34.2 | 33.3 |

| | 37 | 36 |
|---|---|---|
| 1 | 0.6 | 0.6 |
| 2 | 1.2 | 1.2 |
| 3 | 1.9 | 1.8 |
| 4 | 2.5 | 2.4 |
| 5 | 3.1 | 3.0 |
| 6 | 3.7 | 3.6 |
| 7 | 4.3 | 4.2 |
| 8 | 4.9 | 4.8 |
| 9 | 5.6 | 5.4 |
| 10 | 6.2 | 6.0 |
| 20 | 12.3 | 12.0 |
| 30 | 18.5 | 18.0 |
| 40 | 24.7 | 24.0 |
| 50 | 30.8 | 30.0 |

| | 4 | 5 |
|---|---|---|
| 10 | 0.7 | 0.8 |
| 20 | 1.3 | 1.7 |
| 30 | 2.0 | 2.5 |
| 40 | 2.7 | 3.3 |
| 50 | 3.3 | 4.2 |

# 70°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.52350** | | **9.54915** | | **0.45085** | **9.97435** | | **30** | |
| | | 35 | | 40 | | | 5 | | |
| 31 | 9.52385 | | 9.54955 | | 0.45045 | 9.97430 | | 29 | 40 39 |
| | | 36 | | 40 | | | 4 | | 1 0.7 0.7 |
| 32 | 9.52421 | | 9.54995 | | 0.45005 | 9.97426 | | 28 | 2 1.3 1.3 |
| | | 35 | | 40 | | | 5 | | 3 2.0 2.0 |
| 33 | 9.52456 | | 9.55035 | | 0.44965 | 9.97421 | | 27 | 4 2.7 2.6 |
| | | 36 | | 40 | | | 4 | | 5 3.3 3.3 |
| 34 | 9.52492 | | 9.55075 | | 0.44925 | 9.97417 | | 26 | 6 4.0 3.9 |
| | | 35 | | 40 | | | 5 | | 7 4.7 4.6 |
| **35** | **9.52527** | | **9.55115** | | **0.44885** | **9.97412** | | **25** | 8 5.3 5.2 |
| | | 36 | | 40 | | | 4 | | 9 6.0 5.9 |
| 36 | 9.52563 | | 9.55155 | | 0.44845 | 9.97408 | | 24 | 10 6.7 6.5 |
| | | 35 | | 40 | | | 5 | | 20 13.3 13.0 |
| 37 | 9.52598 | | 9.55195 | | 0.44805 | 9.97403 | | 23 | 30 20.0 19.5 |
| | | 36 | | 40 | | | 4 | | 40 26.7 26.0 |
| 38 | 9.52634 | | 9.55235 | | 0.44765 | 9.97399 | | 22 | 50 33.3 32.5 |
| | | 35 | | 40 | | | 5 | | |
| 39 | 9.52669 | | 9.55275 | | 0.44725 | 9.97394 | | 21 | |
| | | 36 | | 40 | | | 4 | | |
| **40** | **9.52705** | | **9.55315** | | **0.44685** | **9.97390** | | **20** | 36 |
| | | 35 | | 40 | | | 5 | | 1 0.6 |
| 41 | 9.52740 | | 9.55355 | | 0.44645 | 9.97385 | | 19 | 2 1.2 |
| | | 35 | | 40 | | | 4 | | 3 1.8 |
| 42 | 9.52775 | | 9.55395 | | 0.44605 | 9.97381 | | 18 | 4 2.4 |
| | | 36 | | 39 | | | 5 | | 5 3.0 |
| 43 | 9.52811 | | 9.55434 | | 0.44566 | 9.97376 | | 17 | 6 3.6 |
| | | 35 | | 40 | | | 4 | | 7 4.2 |
| 44 | 9.52846 | | 9.55474 | | 0.44526 | 9.97372 | | 16 | 8 4.8 |
| | | 35 | | 40 | | | 5 | | 9 5.4 |
| **45** | **9.52881** | | **9.55514** | | **0.44486** | **9.97367** | | **15** | 10 6.0 |
| | | 35 | | 40 | | | 4 | | 20 12.0 |
| 46 | 9.52916 | | 9.55554 | | 0.44446 | 9.97363 | | 14 | 30 18.0 |
| | | 35 | | 39 | | | 5 | | 40 24.0 |
| 47 | 9.52951 | | 9.55593 | | 0.44407 | 9.97358 | | 13 | 50 30.0 |
| | | 35 | | 40 | | | 5 | | |
| 48 | 9.52986 | | 9.55633 | | 0.44367 | 9.97353 | | 12 | |
| | | 35 | | 40 | | | 4 | | |
| 49 | 9.53021 | | 9.55673 | | 0.44327 | 9.97349 | | 11 | 35 34 |
| | | 35 | | 39 | | | 5 | | 1 0.6 0.6 |
| **50** | **9.53056** | | **9.55712** | | **0.44288** | **9.97344** | | **10** | 2 1.2 1.1 |
| | | 36 | | 40 | | | 4 | | 3 1.8 1.7 |
| 51 | 9.53092 | | 9.55752 | | 0.44248 | 9.97340 | | 9 | 4 2.3 2.3 |
| | | 34 | | 39 | | | 5 | | 5 2.9 2.8 |
| 52 | 9.53126 | | 9.55791 | | 0.44209 | 9.97335 | | 8 | 6 3.5 3.4 |
| | | 35 | | 40 | | | 4 | | 7 4.1 4.0 |
| 53 | 9.53161 | | 9.55831 | | 0.44169 | 9.97331 | | 7 | 8 4.7 4.5 |
| | | 35 | | 39 | | | 5 | | 9 5.3 5.1 |
| 54 | 9.53196 | | 9.55870 | | 0.44130 | 9.97326 | | 6 | 10 5.8 5.7 |
| | | 35 | | 40 | | | 4 | | 20 11.7 11.3 |
| **55** | **9.53231** | | **9.55910** | | **0.44090** | **9.97322** | | **5** | 30 17.5 17.0 |
| | | 35 | | 39 | | | 5 | | 40 23.3 22.7 |
| 56 | 9.53266 | | 9.55949 | | 0.44051 | 9.97317 | | 4 | 50 29.2 28.3 |
| | | 35 | | 40 | | | 5 | | |
| 57 | 9.53301 | | 9.55989 | | 0.44011 | 9.97312 | | 3 | |
| | | 35 | | 39 | | | 4 | | 4 5 |
| 58 | 9.53336 | | 9.56028 | | 0.43972 | 9.97308 | | 2 | 10 0.7 0.8 |
| | | 34 | | 39 | | | 5 | | 20 1.3 1.7 |
| 59 | 9.53370 | | 9.56067 | | 0.43933 | 9.97303 | | 1 | 30 2.0 2.5 |
| | | 35 | | 40 | | | 4 | | 40 2.7 3.3 |
| **60** | **9.53405** | | **9.56107** | | **0.43893** | **9.97299** | | **0** | 50 3.3 4.2 |
| | | 35 | | 39 | | | 5 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 20°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.53405 | | 9.56107 | | 0.43893 | 9.97299 | | 60 |
| | | 35 | | 39 | | | 5 | |
| 1 | 9.53440 | | 9.56146 | | 0.43854 | 9.97294 | | 59 |
| | | 35 | | 39 | | | 5 | |
| 2 | 9.53475 | | 9.56185 | | 0.43815 | 9.97289 | | 58 |
| | | 34 | | 39 | | | 4 | |
| 3 | 9.53509 | | 9.56224 | | 0.43776 | 9.97285 | | 57 |
| | | 35 | | 40 | | | 5 | |
| 4 | 9.53544 | | 9.56264 | | 0.43736 | 9.97280 | | 56 |
| | | 34 | | 39 | | | 4 | |
| 5 | 9.53578 | | 9.56303 | | 0.43697 | 9.97276 | | 55 |
| | | 35 | | 39 | | | 5 | |
| 6 | 9.53613 | | 9.56342 | | 0.43658 | 9.97271 | | 54 |
| | | 34 | | 39 | | | 5 | |
| 7 | 9.53647 | | 9.56381 | | 0.43619 | 9.97266 | | 53 |
| | | 35 | | 39 | | | 4 | |
| 8 | 9.53682 | | 9.56420 | | 0.43580 | 9.97262 | | 52 |
| | | 34 | | 39 | | | 5 | |
| 9 | 9.53716 | | 9.56459 | | 0.43541 | 9.97257 | | 51 |
| | | 35 | | 39 | | | 5 | |
| 10 | 9.53751 | | 9.56498 | | 0.43502 | 9.97252 | | 50 |
| | | 34 | | 39 | | | 4 | |
| 11 | 9.53785 | | 9.56537 | | 0.43463 | 9.97248 | | 49 |
| | | 34 | | 39 | | | 5 | |
| 12 | 9.53819 | | 9.56576 | | 0.43424 | 9.97243 | | 48 |
| | | 35 | | 39 | | | 5 | |
| 13 | 9.53854 | | 9.56615 | | 0.43385 | 9.97238 | | 47 |
| | | 34 | | 39 | | | 4 | |
| 14 | 9.53888 | | 9.56654 | | 0.43346 | 9.97234 | | 46 |
| | | 34 | | 39 | | | 5 | |
| 15 | 9.53922 | | 9.56693 | | 0.43307 | 9.97229 | | 45 |
| | | 35 | | 39 | | | 5 | |
| 16 | 9.53957 | | 9.56732 | | 0.43268 | 9.97224 | | 44 |
| | | 34 | | 39 | | | 4 | |
| 17 | 9.53991 | | 9.56771 | | 0.43229 | 9.97220 | | 43 |
| | | 34 | | 39 | | | 5 | |
| 18 | 9.54025 | | 9.56810 | | 0.43190 | 9.97215 | | 42 |
| | | 34 | | 39 | | | 5 | |
| 19 | 9.54059 | | 9.56849 | | 0.43151 | 9.97210 | | 41 |
| | | 34 | | 38 | | | 4 | |
| 20 | 9.54093 | | 9.56887 | | 0.43113 | 9.97206 | | 40 |
| | | 34 | | 39 | | | 5 | |
| 21 | 9.54127 | | 9.56926 | | 0.43074 | 9.97201 | | 39 |
| | | 34 | | 39 | | | 5 | |
| 22 | 9.54161 | | 9.56965 | | 0.43035 | 9.97196 | | 38 |
| | | 34 | | 39 | | | 4 | |
| 23 | 9.54195 | | 9.57004 | | 0.42996 | 9.97192 | | 37 |
| | | 34 | | 38 | | | 5 | |
| 24 | 9.54229 | | 9.57042 | | 0.42958 | 9.97187 | | 36 |
| | | 34 | | 39 | | | 5 | |
| 25 | 9.54263 | | 9.57081 | | 0.42919 | 9.97182 | | 35 |
| | | 34 | | 39 | | | 4 | |
| 26 | 9.54297 | | 9.57120 | | 0.42880 | 9.97178 | | 34 |
| | | 34 | | 38 | | | 5 | |
| 27 | 9.54331 | | 9.57158 | | 0.42842 | 9.97173 | | 33 |
| | | 34 | | 39 | | | 5 | |
| 28 | 9.54365 | | 9.57197 | | 0.42803 | 9.97168 | | 32 |
| | | 34 | | 38 | | | 5 | |
| 29 | 9.54399 | | 9.57235 | | 0.42765 | 9.97163 | | 31 |
| | | 34 | | 39 | | | 4 | |
| 30 | 9.54433 | | 9.57274 | | 0.42726 | 9.97159 | | 30 |
| | | 33 | | 38 | | | 5 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP.
Seconds

| | 40 | 39 |
|---|---|---|
| 1 | 0.7 | 0.7 |
| 2 | 1.3 | 1.3 |
| 3 | 2.0 | 2.0 |
| 4 | 2.7 | 2.6 |
| 5 | 3.3 | 3.3 |
| 6 | 4.0 | 3.9 |
| 7 | 4.7 | 4.6 |
| 8 | 5.3 | 5.2 |
| 9 | 6.0 | 5.9 |
| 10 | 6.7 | 6.5 |
| 20 | 13.3 | 13.0 |
| 30 | 20.0 | 19.5 |
| 40 | 26.7 | 26.0 |
| 50 | 33.3 | 32.5 |

| | 38 | 35 |
|---|---|---|
| 1 | 0.6 | 0.6 |
| 2 | 1.3 | 1.2 |
| 3 | 1.9 | 1.8 |
| 4 | 2.5 | 2.3 |
| 5 | 3.2 | 2.9 |
| 6 | 3.8 | 3.5 |
| 7 | 4.4 | 4.1 |
| 8 | 5.1 | 4.7 |
| 9 | 5.7 | 5.3 |
| 10 | 6.3 | 5.8 |
| 20 | 12.7 | 11.7 |
| 30 | 19.0 | 17.5 |
| 40 | 25.3 | 23.3 |
| 50 | 31.7 | 29.2 |

| | 34 |
|---|---|
| 1 | 0.6 |
| 2 | 1.1 |
| 3 | 1.7 |
| 4 | 2.3 |
| 5 | 2.8 |
| 6 | 3.4 |
| 7 | 4.0 |
| 8 | 4.5 |
| 9 | 5.1 |
| 10 | 5.7 |
| 20 | 11.3 |
| 30 | 17.0 |
| 40 | 22.7 |
| 50 | 28.3 |

| | 4 | 5 |
|---|---|---|
| 10 | 0.7 | 0.8 |
| 20 | 1.3 | 1.7 |
| 30 | 2.0 | 2.5 |
| 40 | 2.7 | 3.3 |
| 50 | 3.3 | 4.2 |

PP.

# 69°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.54433** | | **9.57274** | | **0.42726** | **9.97159** | | **30** | |
| | | 33 | | 38 | | | 5 | | |
| 31 | 9.54466 | | 9.57312 | | 0.42688 | 9.97154 | | 29 | 39 38 |
| 32 | 9.54500 | 34 | 9.57351 | 39 | 0.42649 | 9.97149 | 5 | 28 | 1 0.7 0.6 |
| 33 | 9.54534 | 34 | 9.57389 | 38 | 0.42611 | 9.97145 | 4 | 27 | 2 1.3 1.3 |
| 34 | 9.54567 | 33 | 9.57428 | 39 | 0.42572 | 9.97140 | 5 | 26 | 3 2.0 1.9 |
| | | 34 | | 38 | | | 5 | | 4 2.6 2.5 |
| **35** | **9.54601** | | **9.57466** | | **0.42534** | **9.97135** | | **25** | 5 3.3 3.2 |
| | | 34 | | 38 | | | 5 | | 6 3.9 3.8 |
| 36 | 9.54635 | | 9.57504 | | 0.42496 | 9.97130 | | 24 | 7 4.6 4.4 |
| 37 | 9.54668 | 33 | 9.57543 | 39 | 0.42457 | 9.97126 | 4 | 23 | 8 5.2 5.1 |
| 38 | 9.54702 | 34 | 9.57581 | 38 | 0.42419 | 9.97121 | 5 | 22 | 9 5.9 5.7 |
| 39 | 9.54735 | 33 | 9.57619 | 38 | 0.42381 | 9.97116 | 5 | 21 | 10 6.5 6.3 |
| | | 34 | | 39 | | | 5 | | 20 13.0 12.7 |
| **40** | **9.54769** | | **9.57658** | | **0.42342** | **9.97111** | | **20** | 30 19.5 19.0 |
| | | 33 | | 38 | | | 4 | | 40 26.0 25.3 |
| 41 | 9.54802 | | 9.57696 | | 0.42304 | 9.97107 | | 19 | 50 32.5 31.7 |
| 42 | 9.54836 | 34 | 9.57734 | 38 | 0.42266 | 9.97102 | 5 | 18 | |
| 43 | 9.54869 | 33 | 9.57772 | 38 | 0.42228 | 9.97097 | 5 | 17 | 37 |
| 44 | 9.54903 | 34 | 9.57810 | 38 | 0.42190 | 9.97092 | 5 | 16 | 1 0.6 |
| | | 33 | | 39 | | | 5 | | 2 1.2 |
| **45** | **9.54936** | | **9.57849** | | **0.42151** | **9.97087** | | **15** | 3 1.9 |
| | | 33 | | 38 | | | 4 | | 4 2.5 |
| 46 | 9.54969 | | 9.57887 | | 0.42113 | 9.97083 | | 14 | 5 3.1 |
| 47 | 9.55003 | 34 | 9.57925 | 38 | 0.42075 | 9.97078 | 5 | 13 | 6 3.7 |
| 48 | 9.55036 | 33 | 9.57963 | 38 | 0.42037 | 9.97073 | 5 | 12 | 7 4.3 |
| 49 | 9.55069 | 33 | 9.58001 | 38 | 0.41999 | 9.97068 | 5 | 11 | 8 4.9 |
| | | 33 | | 38 | | | 5 | | 9 5.6 |
| **50** | **9.55102** | | **9.58039** | | **0.41961** | **9.97063** | | **10** | 10 6.2 |
| | | 34 | | 38 | | | 4 | | 20 12.3 |
| 51 | 9.55136 | | 9.58077 | | 0.41923 | 9.97059 | | 9 | 30 18.5 |
| 52 | 9.55169 | 33 | 9.58115 | 38 | 0.41885 | 9.97054 | 5 | 8 | 40 24.7 |
| 53 | 9.55202 | 33 | 9.58153 | 38 | 0.41847 | 9.97049 | 5 | 7 | 50 30.8 |
| 54 | 9.55235 | 33 | 9.58191 | 38 | 0.41809 | 9.97044 | 5 | 6 | |
| | | 33 | | 38 | | | 5 | | 34 33 |
| **55** | **9.55268** | | **9.58229** | | **0.41771** | **9.97039** | | **5** | 1 0.6 0.6 |
| | | 33 | | 38 | | | 4 | | 2 1.1 1.1 |
| 56 | 9.55301 | | 9.58267 | | 0.41733 | 9.97035 | | 4 | 3 1.7 1.7 |
| 57 | 9.55334 | 33 | 9.58304 | 37 | 0.41696 | 9.97030 | 5 | 3 | 4 2.3 2.2 |
| 58 | 9.55367 | 33 | 9.58342 | 38 | 0.41658 | 9.97025 | 5 | 2 | 5 2.8 2.8 |
| 59 | 9.55400 | 33 | 9.58380 | 38 | 0.41620 | 9.97020 | 5 | 1 | 6 3.4 3.3 |
| | | 33 | | 38 | | | 5 | | 7 4.0 3.9 |
| **60** | **9.55433** | | **9.58418** | | **0.41582** | **9.97015** | | **0** | 8 4.5 4.4 |
| | | 33 | | 37 | | | 5 | | 9 5.1 5.0 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | 10 5.7 5.5 |
| | | | | | | | | | 20 11.3 11.0 |
| | | | | | | | | | 30 17.0 16.5 |
| | | | | | | | | | 40 22.7 22.0 |
| | | | | | | | | | 50 28.3 27.5 |
| | | | | | | | | | 4 5 |
| | | | | | | | | | 10 0.7 0.8 |
| | | | | | | | | | 20 1.3 1.7 |
| | | | | | | | | | 30 2.0 2.5 |
| | | | | | | | | | 40 2.7 3.3 |
| | | | | | | | | | 50 3.3 4.2 |
| | | | | | | | | | PP. |

# 21°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.55433 | | 9.58418 | | 0.41582 | 9.97015 | | 60 |
| | | 33 | | 37 | | | 5 | |
| 1 | 9.55466 | | 9.58455 | | 0.41545 | 9.97010 | | 59 |
| | | 33 | | 38 | | | 5 | |
| 2 | 9.55499 | | 9.58493 | | 0.41507 | 9.97005 | | 58 |
| | | 33 | | 38 | | | 4 | |
| 3 | 9.55532 | | 9.58531 | | 0.41469 | 9.97001 | | 57 |
| | | 32 | | 38 | | | 5 | |
| 4 | 9.55564 | | 9.58569 | | 0.41431 | 9.96996 | | 56 |
| | | 33 | | 37 | | | 5 | |
| 5 | 9.55597 | | 9.58606 | | 0.41394 | 9.96991 | | 55 |
| | | 33 | | 38 | | | 5 | |
| 6 | 9.55630 | | 9.58644 | | 0.41356 | 9.96986 | | 54 |
| | | 33 | | 37 | | | 5 | |
| 7 | 9.55663 | | 9.58681 | | 0.41319 | 9.96981 | | 53 |
| | | 32 | | 38 | | | 5 | |
| 8 | 9.55695 | | 9.58719 | | 0.41281 | 9.96976 | | 52 |
| | | 33 | | 38 | | | 5 | |
| 9 | 9.55728 | | 9.58757 | | 0.41243 | 9.96971 | | 51 |
| | | 33 | | 37 | | | 5 | |
| 10 | 9.55761 | | 9.58794 | | 0.41206 | 9.96966 | | 50 |
| | | 32 | | 38 | | | 4 | |
| 11 | 9.55793 | | 9.58832 | | 0.41168 | 9.96962 | | 49 |
| | | 33 | | 37 | | | 5 | |
| 12 | 9.55826 | | 9.58869 | | 0.41131 | 9.96957 | | 48 |
| | | 32 | | 38 | | | 5 | |
| 13 | 9.55858 | | 9.58907 | | 0.41093 | 9.96952 | | 47 |
| | | 33 | | 37 | | | 5 | |
| 14 | 9.55891 | | 9.58944 | | 0.41056 | 9.96947 | | 46 |
| | | 32 | | 37 | | | 5 | |
| 15 | 9.55923 | | 9.58981 | | 0.41019 | 9.96942 | | 45 |
| | | 33 | | 38 | | | 5 | |
| 16 | 9.55956 | | 9.59019 | | 0.40981 | 9.96937 | | 44 |
| | | 32 | | 37 | | | 5 | |
| 17 | 9.55988 | | 9.59056 | | 0.40944 | 9.96932 | | 43 |
| | | 33 | | 38 | | | 5 | |
| 18 | 9.56021 | | 9.59094 | | 0.40906 | 9.96927 | | 42 |
| | | 32 | | 37 | | | 5 | |
| 19 | 9.56053 | | 9.59131 | | 0.40869 | 9.96922 | | 41 |
| | | 32 | | 37 | | | 5 | |
| 20 | 9.56085 | | 9.59168 | | 0.40832 | 9.96917 | | 40 |
| | | 33 | | 37 | | | 5 | |
| 21 | 9.56118 | | 9.59205 | | 0.40795 | 9.96912 | | 39 |
| | | 32 | | 38 | | | 5 | |
| 22 | 9.56150 | | 9.59243 | | 0.40757 | 9.96907 | | 38 |
| | | 32 | | 37 | | | 4 | |
| 23 | 9.56182 | | 9.59280 | | 0.40720 | 9.96903 | | 37 |
| | | 33 | | 37 | | | 5 | |
| 24 | 9.56215 | | 9.59317 | | 0.40683 | 9.96898 | | 36 |
| | | 32 | | 37 | | | 5 | |
| 25 | 9.56247 | | 9.59354 | | 0.40646 | 9.96893 | | 35 |
| | | 32 | | 37 | | | 5 | |
| 26 | 9.56279 | | 9.59391 | | 0.40609 | 9.96888 | | 34 |
| | | 32 | | 38 | | | 5 | |
| 27 | 9.56311 | | 9.59429 | | 0.40571 | 9.96883 | | 33 |
| | | 32 | | 37 | | | 5 | |
| 28 | 9.56343 | | 9.59466 | | 0.40534 | 9.96878 | | 32 |
| | | 32 | | 37 | | | 5 | |
| 29 | 9.56375 | | 9.59503 | | 0.40497 | 9.96873 | | 31 |
| | | 33 | | 37 | | | 5 | |
| 30 | 9.56408 | | 9.59540 | | 0.40460 | 9.96868 | | 30 |
| | | 32 | | 37 | | | 5 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 38 | 37 |
|---|---|---|
| 1 | 0.6 | 0.6 |
| 2 | 1.3 | 1.2 |
| 3 | 1.9 | 1.9 |
| 4 | 2.5 | 2.5 |
| 5 | 3.2 | 3.1 |
| 6 | 3.8 | 3.7 |
| 7 | 4.4 | 4.3 |
| 8 | 5.1 | 4.9 |
| 9 | 5.7 | 5.6 |
| 10 | 6.3 | 6.2 |
| 20 | 12.7 | 12.3 |
| 30 | 19.0 | 18.5 |
| 40 | 25.3 | 24.7 |
| 50 | 31.7 | 30.8 |

| | 33 | 32 |
|---|---|---|
| 1 | 0.6 | 0.5 |
| 2 | 1.2 | 1.1 |
| 3 | 1.7 | 1.6 |
| 4 | 2.2 | 2.1 |
| 5 | 2.8 | 2.7 |
| 6 | 3.3 | 3.2 |
| 7 | 3.9 | 3.7 |
| 8 | 4.4 | 4.3 |
| 9 | 5.0 | 4.8 |
| 10 | 5.5 | 5.3 |
| 20 | 11.0 | 10.7 |
| 30 | 16.5 | 16.0 |
| 40 | 22.0 | 21.3 |
| 50 | 27.5 | 26.7 |

| | 4 | 5 |
|---|---|---|
| 10 | 0.7 | 0.8 |
| 20 | 1.3 | 1.7 |
| 30 | 2.0 | 2.5 |
| 40 | 2.7 | 3.3 |
| 50 | 3.3 | 4.2 |

PP.

# 68°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.56408** | | **9.59540** | | **0.40460** | **9.96868** | | 30 |
| | | 32 | | 37 | | | 5 | |
| 31 | 9.56440 | | 9.59577 | | 0.40423 | 9.96863 | | 29 |
| | | 32 | | 37 | | | 5 | |
| 32 | 9.56472 | | 9.59614 | | 0.40386 | 9.96858 | | 28 |
| | | 32 | | 37 | | | 5 | |
| 33 | 9.56504 | | 9.59651 | | 0.40349 | 9.96853 | | 27 |
| | | 32 | | 37 | | | 5 | |
| 34 | 9.56536 | | 9.59688 | | 0.40312 | 9.96848 | | 26 |
| | | 32 | | 37 | | | 5 | |
| **35** | **9.56568** | | **9.59725** | | **0.40275** | **9.96843** | | 25 |
| | | 31 | | 37 | | | 5 | |
| 36 | 9.56599 | | 9.59762 | | 0.40238 | 9.96838 | | 24 |
| | | 32 | | 37 | | | 5 | |
| 37 | 9.56631 | | 9.59799 | | 0.40201 | 9.96833 | | 23 |
| | | 32 | | 36 | | | 5 | |
| 38 | 9.56663 | | 9.59835 | | 0.40165 | 9.96828 | | 22 |
| | | 32 | | 37 | | | 5 | |
| 39 | 9.56695 | | 9.59872 | | 0.40128 | 9.96823 | | 21 |
| | | 32 | | 37 | | | 5 | |
| **40** | **9.56727** | | **9.59909** | | **0.40091** | **9.96818** | | 20 |
| | | 32 | | 37 | | | 5 | |
| 41 | 9.56759 | | 9.59946 | | 0.40054 | 9.96813 | | 19 |
| | | 31 | | 37 | | | 5 | |
| 42 | 9.56790 | | 9.59983 | | 0.40017 | 9.96808 | | 18 |
| | | 32 | | 36 | | | 5 | |
| 43 | 9.56822 | | 9.60019 | | 0.39981 | 9.96803 | | 17 |
| | | 32 | | 37 | | | 5 | |
| 44 | 9.56854 | | 9.60056 | | 0.39944 | 9.96798 | | 16 |
| | | 32 | | 37 | | | 5 | |
| **45** | **9.56886** | | **9.60093** | | **0.39907** | **9.96793** | | 15 |
| | | 31 | | 37 | | | 5 | |
| 46 | 9.56917 | | 9.60130 | | 0.39870 | 9.96788 | | 14 |
| | | 32 | | 36 | | | 5 | |
| 47 | 9.56949 | | 9.60166 | | 0.39834 | 9.96783 | | 13 |
| | | 31 | | 37 | | | 5 | |
| 48 | 9.56980 | | 9.60203 | | 0.39797 | 9.96778 | | 12 |
| | | 32 | | 37 | | | 6 | |
| 49 | 9.57012 | | 9.60240 | | 0.39760 | 9.96772 | | 11 |
| | | 32 | | 36 | | | 5 | |
| **50** | **9.57044** | | **9.60276** | | **0.39724** | **9.96767** | | 10 |
| | | 31 | | 37 | | | 5 | |
| 51 | 9.57075 | | 9.60313 | | 0.39687 | 9.96762 | | 9 |
| | | 32 | | 36 | | | 5 | |
| 52 | 9.57107 | | 9.60349 | | 0.39651 | 9.96757 | | 8 |
| | | 31 | | 37 | | | 5 | |
| 53 | 9.57138 | | 9.60386 | | 0.39614 | 9.96752 | | 7 |
| | | 31 | | 36 | | | 5 | |
| 54 | 9.57169 | | 9.60422 | | 0.39578 | 9.96747 | | 6 |
| | | 32 | | 37 | | | 5 | |
| **55** | **9.57201** | | **9.60459** | | **0.39541** | **9.96742** | | 5 |
| | | 31 | | 36 | | | 5 | |
| 56 | 9.57232 | | 9.60495 | | 0.39505 | 9.96737 | | 4 |
| | | 32 | | 37 | | | 5 | |
| 57 | 9.57264 | | 9.60532 | | 0.39468 | 9.96732 | | 3 |
| | | 31 | | 36 | | | 5 | |
| 58 | 9.57295 | | 9.60568 | | 0.39432 | 9.96727 | | 2 |
| | | 31 | | 37 | | | 5 | |
| 59 | 9.57326 | | 9.60605 | | 0.39395 | 9.96722 | | 1 |
| | | 32 | | 36 | | | 5 | |
| **60** | **9.57358** | | **9.60641** | | **0.39359** | **9.96717** | | 0 |
| | | 31 | | 36 | | | 6 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 37 | 36 |
|---|---|---|
| 1 | 0.6 | 0.6 |
| 2 | 1.2 | 1.2 |
| 3 | 1.9 | 1.8 |
| 4 | 2.5 | 2.4 |
| 5 | 3.1 | 3.0 |
| 6 | 3.7 | 3.6 |
| 7 | 4.3 | 4.2 |
| 8 | 4.9 | 4.8 |
| 9 | 5.6 | 5.4 |
| 10 | 6.2 | 6.0 |
| 20 | 12.3 | 12.0 |
| 30 | 18.5 | 18.0 |
| 40 | 24.7 | 24.0 |
| 50 | 30.8 | 30.0 |

| | 32 | 31 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.1 | 1.0 |
| 3 | 1.6 | 1.6 |
| 4 | 2.1 | 2.1 |
| 5 | 2.7 | 2.6 |
| 6 | 3.2 | 3.1 |
| 7 | 3.7 | 3.6 |
| 8 | 4.3 | 4.1 |
| 9 | 4.8 | 4.7 |
| 10 | 5.3 | 5.2 |
| 20 | 10.7 | 10.3 |
| 30 | 16.0 | 15.5 |
| 40 | 21.3 | 20.7 |
| 50 | 26.7 | 25.8 |

| | 5 | 6 |
|---|---|---|
| 10 | 0.8 | 1.0 |
| 20 | 1.7 | 2.0 |
| 30 | 2.5 | 3.0 |
| 40 | 3.3 | 4.0 |
| 50 | 4.2 | 5.0 |

PP.

# 22°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.57358 | | 9.60641 | | 0.39359 | 9.96717 | | 60 | |
| | | 31 | | 36 | | | 6 | | |
| 1 | 9.57389 | | 9.60677 | | 0.39323 | 9.96711 | | 59 | 37 35 |
| | | 31 | | 37 | | | 5 | | |
| 2 | 9.57420 | | 9.60714 | | 0.39286 | 9.96706 | | 58 | 1 0.6 0.6 |
| | | 31 | | 36 | | | 5 | | 2 1.2 1.2 |
| 3 | 9.57451 | | 9.60750 | | 0.39250 | 9.96701 | | 57 | 3 1.9 1.8 |
| | | 31 | | 36 | | | 5 | | 4 2.5 2.4 |
| 4 | 9.57482 | | 9.60786 | | 0.39214 | 9.96696 | | 56 | 5 3.1 3.0 |
| | | 32 | | 37 | | | 5 | | 6 3.7 3.6 |
| 5 | 9.57514 | | 9.60823 | | 0.39177 | 9.96691 | | 55 | 7 4.3 4.2 |
| | | 31 | | 36 | | | 5 | | 8 4.9 4.8 |
| 6 | 9.57545 | | 9.60859 | | 0.39141 | 9.96686 | | 54 | 9 5.6 5.4 |
| | | 31 | | 36 | | | 5 | | 10 6.2 6.0 |
| 7 | 9.57576 | | 9.60895 | | 0.39105 | 9.96681 | | 53 | 20 12.3 12.0 |
| | | 31 | | 36 | | | 5 | | 30 18.5 18.0 |
| 8 | 9.57607 | | 9.60931 | | 0.39069 | 9.96676 | | 52 | 40 24.7 24.0 |
| | | 31 | | 36 | | | 6 | | 50 30.8 30.0 |
| 9 | 9.57638 | | 9.60967 | | 0.39033 | 9.96670 | | 51 | |
| | | 31 | | 37 | | | 5 | | |
| 10 | 9.57669 | | 9.61004 | | 0.38996 | 9.96665 | | 50 | 35 32 |
| | | 31 | | 36 | | | 5 | | 1 0.6 0.5 |
| 11 | 9.57700 | | 9.61040 | | 0.38960 | 9.96660 | | 49 | 2 1.2 1.1 |
| | | 31 | | 36 | | | 5 | | 3 1.8 1.6 |
| 12 | 9.57731 | | 9.61076 | | 0.38924 | 9.96655 | | 48 | 4 2.3 2.1 |
| | | 31 | | 36 | | | 5 | | 5 2.9 2.7 |
| 13 | 9.57762 | | 9.61112 | | 0.38888 | 9.96650 | | 47 | 6 3.5 3.2 |
| | | 31 | | 36 | | | 5 | | 7 4.1 3.7 |
| 14 | 9.57793 | | 9.61148 | | 0.38852 | 9.96645 | | 46 | 8 4.7 4.3 |
| | | 31 | | 36 | | | 5 | | 9 5.3 4.8 |
| 15 | 9.57824 | | 9.61184 | | 0.38816 | 9.96640 | | 45 | 10 5.8 5.3 |
| | | 31 | | 36 | | | 6 | | 20 11.7 10.7 |
| 16 | 9.57855 | | 9.61220 | | 0.38780 | 9.96634 | | 44 | 30 17.5 16.0 |
| | | 30 | | 36 | | | 5 | | 40 23.3 21.3 |
| 17 | 9.57885 | | 9.61256 | | 0.38744 | 9.96629 | | 43 | 50 29.2 26.7 |
| | | 31 | | 36 | | | 5 | | |
| 18 | 9.57916 | | 9.61292 | | 0.38708 | 9.96624 | | 42 | |
| | | 31 | | 36 | | | 5 | | |
| 19 | 9.57947 | | 9.61328 | | 0.38672 | 9.96619 | | 41 | 31 30 |
| | | 31 | | 36 | | | 5 | | 1 0.5 0.5 |
| 20 | 9.57978 | | 9.61364 | | 0.38636 | 9.96614 | | 40 | 2 1.0 1.0 |
| | | 30 | | 36 | | | 6 | | 3 1.6 1.5 |
| 21 | 9.58008 | | 9.61400 | | 0.38600 | 9.96608 | | 39 | 4 2.1 2.0 |
| | | 31 | | 36 | | | 5 | | 5 2.6 2.5 |
| 22 | 9.58039 | | 9.61436 | | 0.38564 | 9.96603 | | 38 | 6 3.1 3.0 |
| | | 31 | | 36 | | | 5 | | 7 3.6 3.5 |
| 23 | 9.58070 | | 9.61472 | | 0.38528 | 9.96598 | | 37 | 8 4.1 4.0 |
| | | 31 | | 36 | | | 5 | | 9 4.7 4.5 |
| 24 | 9.58101 | | 9.61508 | | 0.38492 | 9.96593 | | 36 | 10 5.2 5.0 |
| | | 30 | | 36 | | | 5 | | 20 10.3 10.0 |
| 25 | 9.58131 | | 9.61544 | | 0.38456 | 9.96588 | | 35 | 30 15.5 15.0 |
| | | 31 | | 35 | | | 6 | | 40 20.7 20.0 |
| 26 | 9.58162 | | 9.61579 | | 0.38421 | 9.96582 | | 34 | 50 25.8 25.0 |
| | | 30 | | 36 | | | 5 | | |
| 27 | 9.58192 | | 9.61615 | | 0.38385 | 9.96577 | | 33 | 5 6 |
| | | 31 | | 36 | | | 5 | | 10 0.8 1.0 |
| 28 | 9.58223 | | 9.61651 | | 0.38349 | 9.96572 | | 32 | 20 1.7 2.0 |
| | | 30 | | 36 | | | 5 | | 30 2.5 3.0 |
| 29 | 9.58253 | | 9.61687 | | 0.38313 | 9.96567 | | 31 | 40 3.3 4.0 |
| | | 31 | | 35 | | | 5 | | 50 4.2 5.0 |
| 30 | 9.58284 | | 9.61722 | | 0.38278 | 9.96562 | | 30 | |
| | | 30 | | 36 | | | 6 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 67°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.58284** | | **9.61722** | | **0.38278** | **9.96562** | | 30 | |
| | | 30 | | 36 | | | 6 | | |
| 31 | 9.58314 | | 9.61758 | | 0.38242 | 9.96556 | | 29 | |
| | | 31 | | 36 | | | 5 | | |
| 32 | 9.58345 | | 9.61794 | | 0.38206 | 9.96551 | | 28 | |
| | | 30 | | 36 | | | 5 | | |
| 33 | 9.58375 | | 9.61830 | | 0.38170 | 9.96546 | | 27 | |
| | | 31 | | 35 | | | 5 | | |
| 34 | 9.58406 | | 9.61865 | | 0.38135 | 9.96541 | | 26 | |
| | | 30 | | 36 | | | 6 | | |
| **35** | **9.58436** | | **9.61901** | | **0.38099** | **9.96535** | | 25 | 36 35 |
| | | 31 | | 35 | | | 5 | | 1 0.6 0.6 |
| 36 | 9.58467 | | 9.61936 | | 0.38064 | 9.96530 | | 24 | 2 1.2 1.2 |
| | | 30 | | 36 | | | 5 | | 3 1.8 1.8 |
| 37 | 9.58497 | | 9.61972 | | 0.38028 | 9.96525 | | 23 | 4 2.4 2.3 |
| | | 30 | | 36 | | | 5 | | 5 3.0 2.9 |
| 38 | 9.58527 | | 9.62008 | | 0.37992 | 9.96520 | | 22 | 6 3.6 3.5 |
| | | 30 | | 35 | | | 6 | | 7 4.2 4.1 |
| 39 | 9.58557 | | 9.62043 | | 0.37957 | 9.96514 | | 21 | 8 4.8 4.7 |
| | | 31 | | 36 | | | 5 | | 9 5.4 5.3 |
| **40** | **9.58588** | | **9.62079** | | **0.37921** | **9.96509** | | 20 | 10 6.0 5.8 |
| | | 30 | | 35 | | | 5 | | 20 12.0 11.7 |
| 41 | 9.58618 | | 9.62114 | | 0.37886 | 9.96504 | | 19 | 30 18.0 17.5 |
| | | 30 | | 36 | | | 6 | | 40 24.0 23.3 |
| 42 | 9.58648 | | 9.62150 | | 0.37850 | 9.96498 | | 18 | 50 30.0 29.2 |
| | | 30 | | 35 | | | 5 | | |
| 43 | 9.58678 | | 9.62185 | | 0.37815 | 9.96493 | | 17 | |
| | | 31 | | 36 | | | 5 | | |
| 44 | 9.58709 | | 9.62221 | | 0.37779 | 9.96488 | | 16 | 31 30 |
| | | 30 | | 35 | | | 5 | | 1 0.5 0.5 |
| **45** | **9.58739** | | **9.62256** | | **0.37744** | **9.96483** | | 15 | 2 1.0 1.0 |
| | | 30 | | 36 | | | 6 | | 3 1.6 1.5 |
| 46 | 9.58769 | | 9.62292 | | 0.37708 | 9.96477 | | 14 | 4 2.1 2.0 |
| | | 30 | | 35 | | | 5 | | 5 2.6 2.5 |
| 47 | 9.58799 | | 9.62327 | | 0.37673 | 9.96472 | | 13 | 6 3.1 3.0 |
| | | 30 | | 35 | | | 5 | | 7 3.6 3.5 |
| 48 | 9.58829 | | 9.62362 | | 0.37638 | 9.96467 | | 12 | 8 4.1 4.0 |
| | | 30 | | 36 | | | 6 | | 9 4.7 4.5 |
| 49 | 9.58859 | | 9.62398 | | 0.37602 | 9.96461 | | 11 | 10 5.2 5.0 |
| | | 30 | | 35 | | | 5 | | 20 10.3 10.0 |
| **50** | **9.58889** | | **9.62433** | | **0.37567** | **9.96456** | | 10 | 30 15.5 15.0 |
| | | 30 | | 35 | | | 5 | | 40 20.7 20.0 |
| 51 | 9.58919 | | 9.62468 | | 0.37532 | 9.96451 | | 9 | 50 25.8 25.0 |
| | | 30 | | 36 | | | 6 | | |
| 52 | 9.58949 | | 9.62504 | | 0.37496 | 9.96445 | | 8 | |
| | | 30 | | 35 | | | 5 | | |
| 53 | 9.58979 | | 9.62539 | | 0.37461 | 9.96440 | | 7 | |
| | | 30 | | 35 | | | 5 | | |
| 54 | 9.59009 | | 9.62574 | | 0.37426 | 9.96435 | | 6 | 5 6 |
| | | 30 | | 35 | | | 6 | | 10 0.8 1.0 |
| **55** | **9.59039** | | **9.62609** | | **0.37391** | **9.96429** | | 5 | 20 1.7 2.0 |
| | | 30 | | 36 | | | 5 | | 30 2.5 3.0 |
| 56 | 9.59069 | | 9.62645 | | 0.37355 | 9.96424 | | 4 | 40 3.3 4.0 |
| | | 29 | | 35 | | | 5 | | 50 4.2 5.0 |
| 57 | 9.59098 | | 9.62680 | | 0.37320 | 9.96419 | | 3 | |
| | | 30 | | 35 | | | 6 | | |
| 58 | 9.59128 | | 9.62715 | | 0.37285 | 9.96413 | | 2 | |
| | | 30 | | 35 | | | 5 | | |
| 59 | 9.59158 | | 9.62750 | | 0.37250 | 9.96408 | | 1 | |
| | | 30 | | 35 | | | 5 | | |
| **60** | **9.59188** | | **9.62785** | | **0.37215** | **9.96403** | | 0 | |
| | | 30 | | 35 | | | 6 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 23°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **9.59188** | 30 | **9.62785** | 35 | **0.37215** | **9.96403** | 6 | **60** | |
| 1 | 9.59218 | 29 | 9.62820 | 35 | 0.37180 | 9.96397 | 5 | 59 | |
| 2 | 9.59247 | 30 | 9.62855 | 35 | 0.37145 | 9.96392 | 5 | 58 | |
| 3 | 9.59277 | 30 | 9.62890 | 36 | 0.37110 | 9.96387 | 6 | 57 | |
| 4 | 9.59307 | 29 | 9.62926 | 35 | 0.37074 | 9.96381 | 5 | 56 | |
| **5** | **9.59336** | 30 | **9.62961** | 35 | **0.37039** | **9.96376** | 6 | **55** | 36 35<br>1 0.6 0.6<br>2 1.2 1.2<br>3 1.8 1.8<br>4 2.4 2.3<br>5 3.0 2.9<br>6 3.6 3.5<br>7 4.2 4.1<br>8 4.8 4.7<br>9 5.4 5.3<br>10 6.0 5.8<br>20 12.0 11.7<br>30 18.0 17.5<br>40 24.0 23.3<br>50 30.0 29.2 |
| 6 | 9.59366 | 30 | 9.62996 | 35 | 0.37004 | 9.96370 | 5 | 54 | |
| 7 | 9.59396 | 29 | 9.63031 | 35 | 0.36969 | 9.96365 | 5 | 53 | |
| 8 | 9.59425 | 30 | 9.63066 | 35 | 0.36934 | 9.96360 | 6 | 52 | |
| 9 | 9.59455 | 29 | 9.63101 | 34 | 0.36899 | 9.96354 | 5 | 51 | |
| **10** | **9.59484** | 30 | **9.63135** | 35 | **0.36865** | **9.96349** | 6 | **50** | |
| 11 | 9.59514 | 29 | 9.63170 | 35 | 0.36830 | 9.96343 | 5 | 49 | |
| 12 | 9.59543 | 30 | 9.63205 | 35 | 0.36795 | 9.96338 | 5 | 48 | |
| 13 | 9.59573 | 29 | 9.63240 | 35 | 0.36760 | 9.96333 | 6 | 47 | |
| 14 | 9.59602 | 30 | 9.63275 | 35 | 0.36725 | 9.96327 | 5 | 46 | 34 30<br>1 0.6 0.5<br>2 1.1 1.0<br>3 1.7 1.5<br>4 2.3 2.0<br>5 2.8 2.5<br>6 3.4 3.0<br>7 4.0 3.5<br>8 4.5 4.0<br>9 5.1 4.5<br>10 5.7 5.0<br>20 11.3 10.0<br>30 17.0 15.0<br>40 22.7 20.0<br>50 28.3 25.0 |
| **15** | **9.59632** | 29 | **9.63310** | 35 | **0.36690** | **9.96322** | 6 | **45** | |
| 16 | 9.59661 | 29 | 9.63345 | 34 | 0.36655 | 9.96316 | 5 | 44 | |
| 17 | 9.59690 | 30 | 9.63379 | 35 | 0.36621 | 9.96311 | 6 | 43 | |
| 18 | 9.59720 | 29 | 9.63414 | 35 | 0.36586 | 9.96305 | 5 | 42 | |
| 19 | 9.59749 | 29 | 9.63449 | 35 | 0.36551 | 9.96300 | 6 | 41 | |
| **20** | **9.59778** | 30 | **9.63484** | 35 | **0.36516** | **9.96294** | 5 | **40** | |
| 21 | 9.59808 | 29 | 9.63519 | 34 | 0.36481 | 9.96289 | 5 | 39 | |
| 22 | 9.59837 | 29 | 9.63553 | 35 | 0.36447 | 9.96284 | 6 | 38 | |
| 23 | 9.59866 | 29 | 9.63588 | 35 | 0.36412 | 9.96278 | 5 | 37 | |
| 24 | 9.59895 | 29 | 9.63623 | 34 | 0.36377 | 9.96273 | 6 | 36 | 5 6<br>10 0.8 1.0<br>20 1.7 2.0<br>30 2.5 3.0<br>40 3.3 4.0<br>50 4.2 5.0 |
| **25** | **9.59924** | 30 | **9.63657** | 35 | **0.36343** | **9.96267** | 5 | **35** | |
| 26 | 9.59954 | 29 | 9.63692 | 34 | 0.36308 | 9.96262 | 6 | 34 | |
| 27 | 9.59983 | 29 | 9.63726 | 35 | 0.36274 | 9.96256 | 5 | 33 | |
| 28 | 9.60012 | 29 | 9 63761 | 35 | 0.36239 | 9.96251 | 6 | 32 | |
| 29 | 9.60041 | 29 | 9.63796 | 34 | 0.36204 | 9.96245 | 5 | 31 | |
| **30** | **9.60070** | 29 | **9.63830** | 35 | **0.36170** | **9.96240** | 6 | **30** | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 66°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.60070** | | **9.63830** | | **0.36170** | **9.96240** | | **30** |
| | | 29 | | 35 | | | 6 | |
| 31 | 9.60099 | | 9.63865 | | 0.36135 | 9.96234 | | 29 |
| | | 29 | | 34 | | | 5 | |
| 32 | 9.60128 | | 9.63899 | | 0.36101 | 9.96229 | | 28 |
| | | 29 | | 35 | | | 6 | |
| 33 | 9.60157 | | 9.63934 | | 0.36066 | 9.96223 | | 27 |
| | | 29 | | 34 | | | 5 | |
| 34 | 9.60186 | | 9.63968 | | 0.36032 | 9.96218 | | 26 |
| | | 29 | | 35 | | | 6 | |
| **35** | **9.60215** | | **9.64003** | | **0.35997** | **9.96212** | | **25** |
| | | 29 | | 34 | | | 5 | |
| 36 | 9.60244 | | 9.64037 | | 0.35963 | 9.96207 | | 24 |
| | | 29 | | 35 | | | 6 | |
| 37 | 9.60273 | | 9.64072 | | 0.35928 | 9.96201 | | 23 |
| | | 29 | | 34 | | | 5 | |
| 38 | 9.60302 | | 9.64106 | | 0.35894 | 9.96196 | | 22 |
| | | 29 | | 34 | | | 6 | |
| 39 | 9.60331 | | 9.64140 | | 0.35860 | 9.96190 | | 21 |
| | | 28 | | 35 | | | 5 | |
| **40** | **9.60359** | | **9.64175** | | **0.35825** | **9.96185** | | **20** |
| | | 29 | | 34 | | | 6 | |
| 41 | 9.60388 | | 9.64209 | | 0.35791 | 9.96179 | | 19 |
| | | 29 | | 34 | | | 5 | |
| 42 | 9.60417 | | 9.64243 | | 0.35757 | 9.96174 | | 18 |
| | | 29 | | 35 | | | 6 | |
| 43 | 9.60446 | | 9.64278 | | 0.35722 | 9.96168 | | 17 |
| | | 28 | | 34 | | | 6 | |
| 44 | 9.60474 | | 9.64312 | | 0.35688 | 9.96162 | | 16 |
| | | 29 | | 34 | | | 5 | |
| **45** | **9.60503** | | **9.64346** | | **0.35654** | **9.96157** | | **15** |
| | | 29 | | 35 | | | 6 | |
| 46 | 9.60532 | | 9.64381 | | 0.35619 | 9.96151 | | 14 |
| | | 29 | | 34 | | | 5 | |
| 47 | 9.60561 | | 9.64415 | | 0.35585 | 9.96146 | | 13 |
| | | 28 | | 34 | | | 6 | |
| 48 | 9.60589 | | 9.64449 | | 0.35551 | 9.96140 | | 12 |
| | | 29 | | 34 | | | 5 | |
| 49 | 9.60618 | | 9.64483 | | 0.35517 | 9.96135 | | 11 |
| | | 28 | | 34 | | | 6 | |
| **50** | **9.60646** | | **9.64517** | | **0.35483** | **9.96129** | | **10** |
| | | 29 | | 35 | | | 6 | |
| 51 | 9.60675 | | 9.64552 | | 0.35448 | 9.96123 | | 9 |
| | | 29 | | 34 | | | 5 | |
| 52 | 9.60704 | | 9.64586 | | 0.35414 | 9.96118 | | 8 |
| | | 28 | | 34 | | | 6 | |
| 53 | 9.60732 | | 9.64620 | | 0.35380 | 9.96112 | | 7 |
| | | 29 | | 34 | | | 5 | |
| 54 | 9.60761 | | 9.64654 | | 0.35346 | 9.96107 | | 6 |
| | | 28 | | 34 | | | 6 | |
| **55** | **9.60789** | | **9.64688** | | **0.35312** | **9.96101** | | **5** |
| | | 29 | | 34 | | | 6 | |
| 56 | 9.60818 | | 9.64722 | | 0.35278 | 9.96095 | | 4 |
| | | 28 | | 34 | | | 5 | |
| 57 | 9.60846 | | 9.64756 | | 0.35244 | 9.96090 | | 3 |
| | | 29 | | 34 | | | 6 | |
| 58 | 9.60875 | | 9.64790 | | 0.35210 | 9.96084 | | 2 |
| | | 28 | | 34 | | | 5 | |
| 59 | 9.60903 | | 9.64824 | | 0.35176 | 9.96079 | | 1 |
| | | 28 | | 34 | | | 6 | |
| **60** | **9.60931** | | **9.64858** | | **0.35142** | **9.96073** | | **0** |
| | | 29 | | 34 | | | 6 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 35 | 34 |
|---|---|---|
| 1 | 0.6 | 0.6 |
| 2 | 1.2 | 1.1 |
| 3 | 1.8 | 1.7 |
| 4 | 2.3 | 2.3 |
| 5 | 2.9 | 2.8 |
| 6 | 3.5 | 3.4 |
| 7 | 4.1 | 4.0 |
| 8 | 4.7 | 4.5 |
| 9 | 5.3 | 5.1 |
| 10 | 5.8 | 5.7 |
| 20 | 11.7 | 11.3 |
| 30 | 17.5 | 17.0 |
| 40 | 23.3 | 22.7 |
| 50 | 29.2 | 28.3 |

| | 29 | 28 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.0 | 0.9 |
| 3 | 1.5 | 1.4 |
| 4 | 1.9 | 1.9 |
| 5 | 2.4 | 2.3 |
| 6 | 2.9 | 2.8 |
| 7 | 3.4 | 3.3 |
| 8 | 3.9 | 3.7 |
| 9 | 4.4 | 4.2 |
| 10 | 4.8 | 4.7 |
| 20 | 9.7 | 9.3 |
| 30 | 14.5 | 14.0 |
| 40 | 19.3 | 18.7 |
| 50 | 24.2 | 23.3 |

| | 5 | 6 |
|---|---|---|
| 10 | 0.8 | 1.0 |
| 20 | 1.7 | 2.0 |
| 30 | 2.5 | 3.0 |
| 40 | 3.3 | 4.0 |
| 50 | 4.2 | 5.0 |

PP.

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.60931 | | 9.64858 | | 0.35142 | 9.96073 | | 60 | |
| | | 29 | | 34 | | | 6 | | |
| 1 | 9.60960 | | 9.64892 | | 0.35108 | 9.96067 | | 59 | |
| | | 28 | | 34 | | | 5 | | |
| 2 | 9.60988 | | 9.64926 | | 0.35074 | 9.96062 | | 58 | |
| | | 28 | | 34 | | | 6 | | |
| 3 | 9.61016 | | 9.64960 | | 0.35040 | 9.96056 | | 57 | |
| | | 29 | | 34 | | | 6 | | |
| 4 | 9.61045 | | 9.64994 | | 0.35006 | 9.96050 | | 56 | |
| | | 28 | | 34 | | | 5 | | |
| 5 | 9.61073 | | 9.65028 | | 0.34972 | 9.96045 | | 55 | 34 33 |
| | | 28 | | 34 | | | 6 | | 1 0.6 0.6 |
| 6 | 9.61101 | | 9.65062 | | 0.34938 | 9.96039 | | 54 | 2 1.1 1.1 |
| | | 28 | | 34 | | | 5 | | 3 1.7 1.7 |
| 7 | 9.61129 | | 9.65096 | | 0.34904 | 9.96034 | | 53 | 4 2.3 2.2 |
| | | 29 | | 34 | | | 6 | | 5 2.8 2.8 |
| 8 | 9.61158 | | 9.65130 | | 0.34870 | 9.96028 | | 52 | 6 3.4 3.3 |
| | | 28 | | 34 | | | 6 | | 7 4.0 3.9 |
| 9 | 9.61186 | | 9.65164 | | 0.34836 | 9.96022 | | 51 | 8 4.5 4.4 |
| | | 28 | | 33 | | | 5 | | 9 5.1 5.0 |
| 10 | 9.61214 | | 9.65197 | | 0.34803 | 9.96017 | | 50 | 10 5.7 5.5 |
| | | 28 | | 34 | | | 6 | | 20 11.3 11.0 |
| 11 | 9.61242 | | 9.65231 | | 0.34769 | 9.96011 | | 49 | 30 17.0 16.5 |
| | | 28 | | 34 | | | 6 | | 40 22.7 22.0 |
| 12 | 9.61270 | | 9.65265 | | 0.34735 | 9.96005 | | 48 | 50 28.3 27.5 |
| | | 28 | | 34 | | | 5 | | |
| 13 | 9.61298 | | 9.65299 | | 0.34701 | 9.96000 | | 47 | |
| | | 28 | | 34 | | | 6 | | |
| 14 | 9.61326 | | 9.65333 | | 0.34667 | 9.95994 | | 46 | |
| | | 28 | | 33 | | | 6 | | 29 28 |
| 15 | 9.61354 | | 9.65366 | | 0.34634 | 9.95988 | | 45 | 1 0.5 0.5 |
| | | 28 | | 34 | | | 6 | | 2 1.0 0.9 |
| 16 | 9.61382 | | 9.65400 | | 0.34600 | 9.95982 | | 44 | 3 1.5 1.4 |
| | | 29 | | 34 | | | 5 | | 4 1.9 1.9 |
| 17 | 9.61411 | | 9.65434 | | 0.34566 | 9.95977 | | 43 | 5 2.4 2.3 |
| | | 27 | | 33 | | | 6 | | 6 2.9 2.8 |
| 18 | 9.61438 | | 9.65467 | | 0.34533 | 9.95971 | | 42 | 7 3.4 3.3 |
| | | 28 | | 34 | | | 6 | | 8 3.9 3.7 |
| 19 | 9.61466 | | 9.65501 | | 0.34499 | 9.95965 | | 41 | 9 4.4 4.2 |
| | | 28 | | 34 | | | 5 | | 10 4.8 4.7 |
| 20 | 9.61494 | | 9.65535 | | 0.34465 | 9.95960 | | 40 | 20 9.7 9.3 |
| | | 28 | | 33 | | | 6 | | 30 14.5 14.0 |
| 21 | 9.61522 | | 9.65568 | | 0.34432 | 9.95954 | | 39 | 40 19.3 18.7 |
| | | 28 | | 34 | | | 6 | | 50 24.2 23.3 |
| 22 | 9.61550 | | 9.65602 | | 0.34398 | 9.95948 | | 38 | |
| | | 28 | | 34 | | | 6 | | |
| 23 | 9.61578 | | 9.65636 | | 0.34364 | 9.95942 | | 37 | |
| | | 28 | | 33 | | | 5 | | |
| 24 | 9.61606 | | 9.65669 | | 0.34331 | 9.95937 | | 36 | 5 6 |
| | | 28 | | 34 | | | 6 | | 10 0.8 1.0 |
| 25 | 9.61634 | | 9.65703 | | 0.34297 | 9.95931 | | 35 | 20 1.7 2.0 |
| | | 28 | | 33 | | | 6 | | 30 2.5 3.0 |
| 26 | 9.61662 | | 9.65736 | | 0.34264 | 9.95925 | | 34 | 40 3.3 4.0 |
| | | 27 | | 34 | | | 5 | | 50 4.2 5.0 |
| 27 | 9.61689 | | 9.65770 | | 0.34230 | 9.95920 | | 33 | |
| | | 28 | | 33 | | | 6 | | |
| 28 | 9.61717 | | 9.65803 | | 0.34197 | 9.95914 | | 32 | |
| | | 28 | | 34 | | | 6 | | |
| 29 | 9.61745 | | 9.65837 | | 0.34163 | 9.95908 | | 31 | |
| | | 28 | | 33 | | | 6 | | |
| 30 | 9.61773 | | 9.65870 | | 0.34130 | 9.95902 | | 30 | |
| | | 27 | | 34 | | | 5 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.61773** | 27 | **9.65870** | 34 | **0.34130** | **9.95902** | 5 | **30** | |
| 31 | 9.61800 | 28 | 9.65904 | 33 | 0.34096 | 9.95897 | 6 | 29 | |
| 32 | 9.61828 | 28 | 9.65937 | 34 | 0.34063 | 9.95891 | 6 | 28 | |
| 33 | 9.61856 | 27 | 9.65971 | 33 | 0.34029 | 9.95885 | 6 | 27 | |
| 34 | 9.61883 | 28 | 9.66004 | 34 | 0.33996 | 9.95879 | 6 | 26 | |
| **35** | **9.61911** | 28 | **9.66038** | 33 | **0.33962** | **9.95873** | 5 | **25** | |
| 36 | 9.61939 | 27 | 9.66071 | 33 | 0.33929 | 9.95868 | 6 | 24 | |
| 37 | 9.61966 | 28 | 9.66104 | 34 | 0.33896 | 9.95862 | 6 | 23 | |
| 38 | 9.61994 | 27 | 9.66138 | 33 | 0.33862 | 9.95856 | 6 | 22 | |
| 39 | 9.62021 | 28 | 9.66171 | 33 | 0.33829 | 9.95850 | 6 | 21 | |
| **40** | **9.62049** | 27 | **9.66204** | 34 | **0.33796** | **9.95844** | 5 | **20** | |
| 41 | 9.62076 | 28 | 9.66238 | 33 | 0.33762 | 9.95839 | 6 | 19 | |
| 42 | 9.62104 | 27 | 9.66271 | 33 | 0.33729 | 9.95833 | 6 | 18 | |
| 43 | 9.62131 | 28 | 9.66304 | 33 | 0.33696 | 9.95827 | 6 | 17 | |
| 44 | 9.62159 | 27 | 9.66337 | 34 | 0.33663 | 9.95821 | 6 | 16 | |
| **45** | **9.62186** | 28 | **9.66371** | 33 | **0.33629** | **9.95815** | 5 | **15** | |
| 46 | 9.62214 | 27 | 9.66404 | 33 | 0.33596 | 9.95810 | 6 | 14 | |
| 47 | 9.62241 | 27 | 9.66437 | 33 | 0.33563 | 9.95804 | 6 | 13 | |
| 48 | 9.62268 | 28 | 9.66470 | 33 | 0.33530 | 9.95798 | 6 | 12 | |
| 49 | 9.62296 | 27 | 9.66503 | 34 | 0.33497 | 9.95792 | 6 | 11 | |
| **50** | **9.62323** | 27 | **9.66537** | 33 | **0.33463** | **9.95786** | 6 | **10** | |
| 51 | 9.62350 | 27 | 9.66570 | 33 | 0.33430 | 9.95780 | 5 | 9 | |
| 52 | 9.62377 | 28 | 9.66603 | 33 | 0.33397 | 9.95775 | 6 | 8 | |
| 53 | 9.62405 | 27 | 9.66636 | 33 | 0.33364 | 9.95769 | 6 | 7 | |
| 54 | 9.62432 | 27 | 9.66669 | 33 | 0.33331 | 9.95763 | 6 | 6 | |
| **55** | **9.62459** | 27 | **9.66702** | 33 | **0.33298** | **9.95757** | 6 | **5** | |
| 56 | 9.62486 | 27 | 9.66735 | 33 | 0.33265 | 9.95751 | 6 | 4 | |
| 57 | 9.62513 | 28 | 9.66768 | 33 | 0.33232 | 9.95745 | 6 | 3 | |
| 58 | 9.62541 | 27 | 9.66801 | 33 | 0.33199 | 9.95739 | 6 | 2 | |
| 59 | 9.62568 | 27 | 9.66834 | 33 | 0.33166 | 9.95733 | 5 | 1 | |
| **60** | **9.62595** | 27 | **9.66867** | 33 | **0.33133** | **9.95728** | 5 | **0** | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| PP. Seconds | 34 | 33 |
|---|---|---|
| 1 | 0.6 | 0.6 |
| 2 | 1.1 | 1.1 |
| 3 | 1.7 | 1.7 |
| 4 | 2.3 | 2.2 |
| 5 | 2.8 | 2.8 |
| 6 | 3.4 | 3.3 |
| 7 | 4.0 | 3.9 |
| 8 | 4.5 | 4.4 |
| 9 | 5.1 | 5.0 |
| 10 | 5.7 | 5.5 |
| 20 | 11.3 | 11.0 |
| 30 | 17.0 | 16.5 |
| 40 | 22.7 | 22.0 |
| 50 | 28.3 | 27.5 |

| PP. Seconds | 28 | 27 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.4 |
| 4 | 1.9 | 1.8 |
| 5 | 2.3 | 2.3 |
| 6 | 2.8 | 2.7 |
| 7 | 3.3 | 3.2 |
| 8 | 3.7 | 3.6 |
| 9 | 4.2 | 4.1 |
| 10 | 4.7 | 4.5 |
| 20 | 9.3 | 9.0 |
| 30 | 14.0 | 13.5 |
| 40 | 18.7 | 18.0 |
| 50 | 23.3 | 22.5 |

| PP. Seconds | 5 | 6 |
|---|---|---|
| 10 | 0.8 | 1.0 |
| 20 | 1.7 | 2.0 |
| 30 | 2.5 | 3.0 |
| 40 | 3.3 | 4.0 |
| 50 | 4.2 | 5.0 |

# 25°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.62595 | | 9.66867 | | 0.33133 | 9.95728 | | 60 |
| | | 27 | | 33 | | | 6 | |
| 1 | 9.62622 | | 9.66900 | | 0.33100 | 9.95722 | | 59 |
| | | 27 | | 33 | | | 6 | |
| 2 | 9.62649 | | 9.66933 | | 0.33067 | 9.95716 | | 58 |
| | | 27 | | 33 | | | 6 | |
| 3 | 9.62676 | | 9.66966 | | 0.33034 | 9.95710 | | 57 |
| | | 27 | | 33 | | | 6 | |
| 4 | 9.62703 | | 9.66999 | | 0.33001 | 9.95704 | | 56 |
| | | 27 | | 33 | | | 6 | |
| 5 | 9.62730 | | 9.67032 | | 0.32968 | 9.95698 | | 55 |
| | | 27 | | 33 | | | 6 | |
| 6 | 9.62757 | | 9.67065 | | 0.32935 | 9.95692 | | 54 |
| | | 27 | | 33 | | | 6 | |
| 7 | 9.62784 | | 9.67098 | | 0.32902 | 9.95686 | | 53 |
| | | 27 | | 33 | | | 6 | |
| 8 | 9.62811 | | 9.67131 | | 0.32869 | 9.95680 | | 52 |
| | | 27 | | 32 | | | 6 | |
| 9 | 9.62838 | | 9.67163 | | 0.32837 | 9.95674 | | 51 |
| | | 27 | | 33 | | | 6 | |
| 10 | 9.62865 | | 9.67196 | | 0.32804 | 9.95668 | | 50 |
| | | 27 | | 33 | | | 5 | |
| 11 | 9.62892 | | 9.67229 | | 0.32771 | 9.95663 | | 49 |
| | | 26 | | 33 | | | 6 | |
| 12 | 9.62918 | | 9.67262 | | 0.32738 | 9.95657 | | 48 |
| | | 27 | | 33 | | | 6 | |
| 13 | 9.62945 | | 9.67295 | | 0.32705 | 9.95651 | | 47 |
| | | 27 | | 32 | | | 6 | |
| 14 | 9.62972 | | 9.67327 | | 0.32673 | 9.95645 | | 46 |
| | | 27 | | 33 | | | 6 | |
| 15 | 9.62999 | | 9.67360 | | 0.32640 | 9.95639 | | 45 |
| | | 27 | | 33 | | | 6 | |
| 16 | 9.63026 | | 9.67393 | | 0.32607 | 9.95633 | | 44 |
| | | 26 | | 33 | | | 6 | |
| 17 | 9.63052 | | 9.67426 | | 0.32574 | 9.95627 | | 43 |
| | | 27 | | 32 | | | 6 | |
| 18 | 9.63079 | | 9.67458 | | 0.32542 | 9.95621 | | 42 |
| | | 27 | | 33 | | | 6 | |
| 19 | 9.63106 | | 9.67491 | | 0.32509 | 9.95615 | | 41 |
| | | 27 | | 33 | | | 6 | |
| 20 | 9.63133 | | 9.67524 | | 0.32476 | 9.95609 | | 40 |
| | | 26 | | 32 | | | 6 | |
| 21 | 9.63159 | | 9.67556 | | 0.32444 | 9.95603 | | 39 |
| | | 27 | | 33 | | | 6 | |
| 22 | 9.63186 | | 9.67589 | | 0.32411 | 9.95597 | | 38 |
| | | 27 | | 33 | | | 6 | |
| 23 | 9.63213 | | 9.67622 | | 0.32378 | 9.95591 | | 37 |
| | | 26 | | 32 | | | 6 | |
| 24 | 9.63239 | | 9.67654 | | 0.32346 | 9.95585 | | 36 |
| | | 27 | | 33 | | | 6 | |
| 25 | 9.63266 | | 9.67687 | | 0.32313 | 9.95579 | | 35 |
| | | 26 | | 32 | | | 6 | |
| 26 | 9.63292 | | 9.67719 | | 0.32281 | 9.95573 | | 34 |
| | | 27 | | 33 | | | 6 | |
| 27 | 9.63319 | | 9.67752 | | 0.32248 | 9.95567 | | 33 |
| | | 26 | | 33 | | | 6 | |
| 28 | 9.63345 | | 9.67785 | | 0.32215 | 9.95561 | | 32 |
| | | 27 | | 32 | | | 6 | |
| 29 | 9.63372 | | 9.67817 | | 0.32183 | 9.95555 | | 31 |
| | | 26 | | 33 | | | 6 | |
| 30 | 9.63398 | | 9.67850 | | 0.32150 | 9.95549 | | 30 |
| | | 27 | | 32 | | | 6 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 33 | 32 |
|---|---|---|
| 1 | 0.6 | 0.5 |
| 2 | 1.1 | 1.1 |
| 3 | 1.7 | 1.6 |
| 4 | 2.2 | 2.1 |
| 5 | 2.8 | 2.7 |
| 6 | 3.3 | 3.2 |
| 7 | 3.9 | 3.7 |
| 8 | 4.4 | 4.3 |
| 9 | 5.0 | 4.8 |
| 10 | 5.5 | 5.3 |
| 20 | 11.0 | 10.7 |
| 30 | 16.5 | 16.0 |
| 40 | 22.0 | 21.3 |
| 50 | 27.5 | 26.7 |

| | 27 | 26 |
|---|---|---|
| 1 | 0.5 | 0.4 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.3 |
| 4 | 1.8 | 1.7 |
| 5 | 2.3 | 2.2 |
| 6 | 2.7 | 2.6 |
| 7 | 3.2 | 3.0 |
| 8 | 3.6 | 3.5 |
| 9 | 4.1 | 3.9 |
| 10 | 4.5 | 4.3 |
| 20 | 9.0 | 8.7 |
| 30 | 13.5 | 13.0 |
| 40 | 18.0 | 17.3 |
| 50 | 22.5 | 21.7 |

| | 5 | 6 |
|---|---|---|
| 10 | 0.8 | 1.0 |
| 20 | 1.7 | 2.0 |
| 30 | 2.5 | 3.0 |
| 40 | 3.3 | 4.0 |
| 50 | 4.2 | 5.0 |

PP.

# 64°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.63398** | 27 | **9.67850** | 32 | **0.32150** | **9.95549** | 6 | **30** |
| 31 | 9.63425 | 26 | 9.67882 | 33 | 0.32118 | 9.95543 | 6 | 29 |
| 32 | 9.63451 | 27 | 9.67915 | 32 | 0.32085 | 9.95537 | 6 | 28 |
| 33 | 9.63478 | 26 | 9.67947 | 33 | 0.32053 | 9.95531 | 6 | 27 |
| 34 | 9.63504 | 27 | 9.67980 | 32 | 0.32020 | 9.95525 | 6 | 26 |
| **35** | **9.63531** | 26 | **9.68012** | 32 | **0.31988** | **9.95519** | 6 | **25** |
| 36 | 9.63557 | 26 | 9.68044 | 33 | 0.31956 | 9.95513 | 6 | 24 |
| 37 | 9.63583 | 27 | 9.68077 | 32 | 0.31923 | 9.95507 | 7 | 23 |
| 38 | 9.63610 | 26 | 9.68109 | 33 | 0.31891 | 9.95500 | 6 | 22 |
| 39 | 9.63636 | 26 | 9.68142 | 32 | 0.31858 | 9.95494 | 6 | 21 |
| **40** | **9.63662** | 27 | **9.68174** | 32 | **0.31826** | **9.95488** | 6 | **20** |
| 41 | 9.63689 | 26 | 9.68206 | 33 | 0.31794 | 9.95482 | 6 | 19 |
| 42 | 9.63715 | 26 | 9.68239 | 32 | 0.31761 | 9.95476 | 6 | 18 |
| 43 | 9.63741 | 26 | 9.68271 | 32 | 0.31729 | 9.95470 | 6 | 17 |
| 44 | 9.63767 | 27 | 9.68303 | 33 | 0.31697 | 9.95464 | 6 | 16 |
| **45** | **9.63794** | 26 | **9.68336** | 32 | **0.31664** | **9.95458** | 6 | **15** |
| 46 | 9.63820 | 26 | 9.68368 | 32 | 0.31632 | 9.95452 | 6 | 14 |
| 47 | 9.63846 | 26 | 9.68400 | 32 | 0.31600 | 9.95446 | 6 | 13 |
| 48 | 9.63872 | 26 | 9.68432 | 33 | 0.31568 | 9.95440 | 6 | 12 |
| 49 | 9.63898 | 26 | 9.68465 | 32 | 0.31535 | 9.95434 | 7 | 11 |
| **50** | **9.63924** | 26 | **9.68497** | 32 | **0.31503** | **9.95427** | 6 | **10** |
| 51 | 9.63950 | 26 | 9.68529 | 32 | 0.31471 | 9.95421 | 6 | 9 |
| 52 | 9.63976 | 26 | 9.68561 | 32 | 0.31439 | 9.95415 | 6 | 8 |
| 53 | 9.64002 | 26 | 9.68593 | 33 | 0.31407 | 9.95409 | 6 | 7 |
| 54 | 9.64028 | 26 | 9.68626 | 32 | 0.31374 | 9.95403 | 6 | 6 |
| **55** | **9.64054** | 26 | **9.68658** | 32 | **0.31342** | **9.95397** | 6 | **5** |
| 56 | 9.64080 | 26 | 9.68690 | 32 | 0.31310 | 9.95391 | 7 | 4 |
| 57 | 9.64106 | 26 | 9.68722 | 32 | 0.31278 | 9.95384 | 6 | 3 |
| 58 | 9.64132 | 26 | 9.68754 | 32 | 0.31246 | 9.95378 | 6 | 2 |
| 59 | 9.64158 | 26 | 9.68786 | 32 | 0.31214 | 9.95372 | 6 | 1 |
| **60** | **9.64184** | 26 | **9.68818** | 32 | **0.31182** | **9.95366** | 6 | **0** |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 33 | 32 |
|---|---|---|
| 1 | 0.6 | 0.5 |
| 2 | 1.1 | 1.1 |
| 3 | 1.7 | 1.6 |
| 4 | 2.2 | 2.1 |
| 5 | 2.8 | 2.7 |
| 6 | 3.3 | 3.2 |
| 7 | 3.9 | 3.7 |
| 8 | 4.4 | 4.3 |
| 9 | 5.0 | 4.8 |
| 10 | 5.5 | 5.3 |
| 20 | 11.0 | 10.7 |
| 30 | 16.5 | 16.0 |
| 40 | 22.0 | 21.3 |
| 50 | 27.5 | 26.7 |

| | 27 | 26 |
|---|---|---|
| 1 | 0.5 | 0.4 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.3 |
| 4 | 1.8 | 1.7 |
| 5 | 2.3 | 2.2 |
| 6 | 2.7 | 2.6 |
| 7 | 3.2 | 3.0 |
| 8 | 3.6 | 3.5 |
| 9 | 4.1 | 3.9 |
| 10 | 4.5 | 4.3 |
| 20 | 9.0 | 8.7 |
| 30 | 13.5 | 13.0 |
| 40 | 18.0 | 17.3 |
| 50 | 22.5 | 21.7 |

| | 6 | 7 |
|---|---|---|
| 10 | 1.0 | 1.2 |
| 20 | 2.0 | 2.3 |
| 30 | 3.0 | 3.5 |
| 40 | 4.0 | 4.7 |
| 50 | 5.0 | 5.8 |

PP.

# 26°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **9.64184** | 26 | **9.68818** | 32 | **0.31182** | **9.95366** | 6 | 60 | |
| 1 | 9.64210 | 26 | 9.68850 | 32 | 0.31150 | 9.95360 | 6 | 59 | |
| 2 | 9.64236 | 26 | 9.68882 | 32 | 0.31118 | 9.95354 | 6 | 58 | |
| 3 | 9.64262 | 26 | 9.68914 | 32 | 0.31086 | 9.95348 | 7 | 57 | |
| 4 | 9.64288 | 25 | 9.68946 | 32 | 0.31054 | 9.95341 | 6 | 56 | |
| **5** | **9.64313** | 26 | **9.68978** | 32 | **0.31022** | **9.95335** | 6 | 55 | |
| 6 | 9.64339 | 26 | 9.69010 | 32 | 0.30990 | 9.95329 | 6 | 54 | |
| 7 | 9.64365 | 26 | 9.69042 | 32 | 0.30958 | 9.95323 | 6 | 53 | |
| 8 | 9.64391 | 26 | 9.69074 | 32 | 0.30926 | 9.95317 | 7 | 52 | |
| 9 | 9.64417 | 25 | 9.69106 | 32 | 0.30894 | 9.95310 | 6 | 51 | |
| **10** | **9.64442** | 26 | **9.69138** | 32 | **0.30862** | **9.95304** | 6 | 50 | |
| 11 | 9.64468 | 26 | 9.69170 | 32 | 0.30830 | 9.95298 | 6 | 49 | |
| 12 | 9.64494 | 25 | 9.69202 | 32 | 0.30798 | 9.95292 | 6 | 48 | |
| 13 | 9.64519 | 26 | 9.69234 | 32 | 0.30766 | 9.95286 | 7 | 47 | |
| 14 | 9.64545 | 26 | 9.69266 | 32 | 0.30734 | 9.95279 | 6 | 46 | |
| **15** | **9.64571** | 25 | **9.69298** | 31 | **0.30702** | **9.95273** | 6 | 45 | |
| 16 | 9.64596 | 26 | 9.69329 | 32 | 0.30671 | 9.95267 | 6 | 44 | |
| 17 | 9.64622 | 25 | 9.69361 | 32 | 0.30639 | 9.95261 | 7 | 43 | |
| 18 | 9.64647 | 26 | 9.69393 | 32 | 0.30607 | 9.95254 | 6 | 42 | |
| 19 | 9.64673 | 25 | 9.69425 | 32 | 0.30575 | 9.95248 | 6 | 41 | |
| **20** | **9.64698** | 26 | **9.69457** | 31 | **0.30543** | **9.95242** | 6 | 40 | |
| 21 | 9.64724 | 25 | 9.69488 | 32 | 0.30512 | 9.95236 | 7 | 39 | |
| 22 | 9.64749 | 26 | 9.69520 | 32 | 0.30480 | 9.95229 | 6 | 38 | |
| 23 | 9.64775 | 25 | 9.69552 | 32 | 0.30448 | 9.95223 | 6 | 37 | |
| 24 | 9.64800 | 26 | 9.69584 | 31 | 0.30416 | 9.95217 | 6 | 36 | |
| **25** | **9.64826** | 25 | **9.69615** | 32 | **0.30385** | **9.95211** | 7 | 35 | |
| 26 | 9.64851 | 26 | 9.69647 | 32 | 0.30353 | 9.95204 | 6 | 34 | |
| 27 | 9.64877 | 25 | 9.69679 | 31 | 0.30321 | 9.95198 | 6 | 33 | |
| 28 | 9.64902 | 25 | 9.69710 | 32 | 0.30290 | 9.95192 | 7 | 32 | |
| 29 | 9.64927 | 26 | 9.69742 | 32 | 0.30258 | 9.95185 | 6 | 31 | |
| **30** | **9.64953** | 25 | **9.69774** | 31 | **0.30226** | **9.95179** | 6 | 30 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| | 32 | 31 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.1 | 1.0 |
| 3 | 1.6 | 1.6 |
| 4 | 2.1 | 2.1 |
| 5 | 2.7 | 2.6 |
| 6 | 3.2 | 3.1 |
| 7 | 3.7 | 3.6 |
| 8 | 4.3 | 4.1 |
| 9 | 4.8 | 4.7 |
| 10 | 5.3 | 5.2 |
| 20 | 10.7 | 10.3 |
| 30 | 16.0 | 15.5 |
| 40 | 21.3 | 20.7 |
| 50 | 26.7 | 25.8 |

| | 26 | 25 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.9 | 0.8 |
| 3 | 1.3 | 1.3 |
| 4 | 1.7 | 1.7 |
| 5 | 2.2 | 2.1 |
| 6 | 2.6 | 2.5 |
| 7 | 3.0 | 2.9 |
| 8 | 3.5 | 3.3 |
| 9 | 3.9 | 3.8 |
| 10 | 4.3 | 4.2 |
| 20 | 8.7 | 8.3 |
| 30 | 13.0 | 12.5 |
| 40 | 17.3 | 16.7 |
| 50 | 21.7 | 20.8 |

| | 6 | 7 |
|---|---|---|
| 10 | 1.0 | 1.2 |
| 20 | 2.0 | 2.3 |
| 30 | 3.0 | 3.5 |
| 40 | 4.0 | 4.7 |
| 50 | 5.0 | 5.8 |

# 63°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.64953** | | **9.69774** | | **0.30226** | **9.95179** | | 30 | |
| | | 25 | | 31 | | | 6 | | |
| 31 | 9.64978 | | 9.69805 | | 0.30195 | 9.95173 | | 29 | |
| | | 25 | | 32 | | | 6 | | |
| 32 | 9.65003 | | 9.69837 | | 0.30163 | 9.95167 | | 28 | |
| | | 26 | | 31 | | | 7 | | |
| 33 | 9.65029 | | 9.69868 | | 0.30132 | 9.95160 | | 27 | |
| | | 25 | | 32 | | | 6 | | |
| 34 | 9.65054 | | 9.69900 | | 0.30100 | 9.95154 | | 26 | |
| | | 25 | | 32 | | | 6 | | |
| **35** | **9.65079** | | **9.69932** | | **0.30068** | **9.95148** | | 25 | 32 31 |
| | | 25 | | 31 | | | 7 | | 1 0.5 0.5 |
| 36 | 9.65104 | | 9.69963 | | 0.30037 | 9.95141 | | 24 | 2 1.1 1.0 |
| | | 26 | | 32 | | | 6 | | 3 1.6 1.6 |
| 37 | 9.65130 | | 9.69995 | | 0.30005 | 9.95135 | | 23 | 4 2.1 2.1 |
| | | 25 | | 31 | | | 6 | | 5 2.7 2.6 |
| 38 | 9.65155 | | 9.70026 | | 0.29974 | 9.95129 | | 22 | 6 3.2 3.1 |
| | | 25 | | 32 | | | 7 | | 7 3.7 3.6 |
| 39 | 9.65180 | | 9.70058 | | 0.29942 | 9.95122 | | 21 | 8 4.3 4.1 |
| | | 25 | | 31 | | | 6 | | 9 4.8 4.7 |
| **40** | **9.65205** | | **9.70089** | | **0.29911** | **9.95116** | | 20 | 10 5.3 5.2 |
| | | 25 | | 32 | | | 6 | | 20 10.7 10.3 |
| 41 | 9.65230 | | 9.70121 | | 0.29879 | 9.95110 | | 19 | 30 16.0 15.5 |
| | | 25 | | 31 | | | 7 | | 40 21.3 20.7 |
| 42 | 9.65255 | | 9.70152 | | 0.29848 | 9.95103 | | 18 | 50 26.7 25.8 |
| | | 26 | | 32 | | | 6 | | |
| 43 | 9.65281 | | 9.70184 | | 0.29816 | 9.95097 | | 17 | |
| | | 25 | | 31 | | | 7 | | |
| 44 | 9.65306 | | 9.70215 | | 0.29785 | 9.95090 | | 16 | 25 24 |
| | | 25 | | 32 | | | 6 | | 1 0.4 0.4 |
| **45** | **9.65331** | | **9.70247** | | **0.29753** | **9.95084** | | 15 | 2 0.8 0.8 |
| | | 25 | | 31 | | | 6 | | 3 1.3 1.2 |
| 46 | 9.65356 | | 9.70278 | | 0.29722 | 9.95078 | | 14 | 4 1.7 1.6 |
| | | 25 | | 31 | | | 7 | | 5 2.1 2.0 |
| 47 | 9.65381 | | 9.70309 | | 0.29691 | 9.95071 | | 13 | 6 2.5 2.4 |
| | | 25 | | 32 | | | 6 | | 7 2.9 2.8 |
| 48 | 9.65406 | | 9.70341 | | 0.29659 | 9.95065 | | 12 | 8 3.3 3.2 |
| | | 25 | | 31 | | | 6 | | 9 3.8 3.6 |
| 49 | 9.65431 | | 9.70372 | | 0.29628 | 9.95059 | | 11 | 10 4.2 4.0 |
| | | 25 | | 32 | | | 7 | | 20 8.3 8.0 |
| **50** | **9.65456** | | **9.70404** | | **0.29596** | **9.95052** | | 10 | 30 12.5 12.0 |
| | | 25 | | 31 | | | 6 | | 40 16.7 16.0 |
| 51 | 9.65481 | | 9.70435 | | 0.29565 | 9.95046 | | 9 | 50 20.8 20.0 |
| | | 25 | | 31 | | | 7 | | |
| 52 | 9.65506 | | 9.70466 | | 0.29534 | 9.95039 | | 8 | |
| | | 25 | | 32 | | | 6 | | |
| 53 | 9.65531 | | 9.70498 | | 0.29502 | 9.95033 | | 7 | |
| | | 25 | | 31 | | | 6 | | |
| 54 | 9.65556 | | 9.70529 | | 0.29471 | 9.95027 | | 6 | 6 7 |
| | | 24 | | 31 | | | 7 | | 10 1.0 1.2 |
| **55** | **9.65580** | | **9.70560** | | **0.29440** | **9.95020** | | 5 | 20 2.0 2.3 |
| | | 25 | | 32 | | | 6 | | 30 3.0 3.5 |
| 56 | 9.65605 | | 9.70592 | | 0.29408 | 9.95014 | | 4 | 40 4.0 4.7 |
| | | 25 | | 31 | | | 7 | | 50 5.0 5.8 |
| 57 | 9.65630 | | 9.70623 | | 0.29377 | 9.95007 | | 3 | |
| | | 25 | | 31 | | | 6 | | |
| 58 | 9.65655 | | 9.70654 | | 0.29346 | 9.95001 | | 2 | |
| | | 25 | | 31 | | | 6 | | |
| 59 | 9.65680 | | 9.70685 | | 0.29315 | 9.94995 | | 1 | |
| | | 25 | | 32 | | | 7 | | |
| **60** | **9.65705** | | **9.70717** | | **0.29283** | **9.94988** | | 0 | |
| | | 24 | | 31 | | | 6 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 27°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **0** | **9.65705** | 24 | **9.70717** | 31 | **0.29283** | **9.94988** | 6 | 60 |
| 1 | 9.65729 | 25 | 9.70748 | 31 | 0.29252 | 9.94982 | 7 | 59 |
| 2 | 9.65754 | 25 | 9.70779 | 31 | 0.29221 | 9.94975 | 6 | 58 |
| 3 | 9.65779 | 25 | 9.70810 | 31 | 0.29190 | 9.94969 | 7 | 57 |
| 4 | 9.65804 | 24 | 9.70841 | 32 | 0.29159 | 9.94962 | 6 | 56 |
| **5** | **9.65828** | 25 | **9.70873** | 31 | **0.29127** | **9.94956** | 7 | 55 |
| 6 | 9.65853 | 25 | 9.70904 | 31 | 0.29096 | 9.94949 | 6 | 54 |
| 7 | 9.65878 | 24 | 9.70935 | 31 | 0.29065 | 9.94943 | 7 | 53 |
| 8 | 9.65902 | 25 | 9.70966 | 31 | 0.29034 | 9.94936 | 6 | 52 |
| 9 | 9.65927 | 25 | 9.70997 | 31 | 0.29003 | 9.94930 | 7 | 51 |
| **10** | **9.65952** | 24 | **9.71028** | 31 | **0.28972** | **9.94923** | 6 | 50 |
| 11 | 9.65976 | 25 | 9.71059 | 31 | 0.28941 | 9.94917 | 6 | 49 |
| 12 | 9.66001 | 24 | 9.71090 | 31 | 0.28910 | 9.94911 | 7 | 48 |
| 13 | 9.66025 | 25 | 9.71121 | 32 | 0.28879 | 9.94904 | 6 | 47 |
| 14 | 9.66050 | 25 | 9.71153 | 31 | 0.28847 | 9.94898 | 7 | 46 |
| **15** | **9.66075** | 24 | **9.71184** | 31 | **0.28816** | **9.94891** | 6 | 45 |
| 16 | 9.66099 | 25 | 9.71215 | 31 | 0.28785 | 9.94885 | 7 | 44 |
| 17 | 9.66124 | 24 | 9.71246 | 31 | 0.28754 | 9.94878 | 7 | 43 |
| 18 | 9.66148 | 25 | 9.71277 | 31 | 0.28723 | 9.94871 | 6 | 42 |
| 19 | 9.66173 | 24 | 9.71308 | 31 | 0.28692 | 9.94865 | 7 | 41 |
| **20** | **9.66197** | 24 | **9.71339** | 31 | **0.28661** | **9.94858** | 6 | 40 |
| 21 | 9.66221 | 25 | 9.71370 | 31 | 0.28630 | 9.94852 | 7 | 39 |
| 22 | 9.66246 | 24 | 9.71401 | 30 | 0.28599 | 9.94845 | 6 | 38 |
| 23 | 9.66270 | 25 | 9.71431 | 31 | 0.28569 | 9.94839 | 7 | 37 |
| 24 | 9.66295 | 24 | 9.71462 | 31 | 0.28538 | 9.94832 | 6 | 36 |
| **25** | **9.66319** | 24 | **9.71493** | 31 | **0.28507** | **9.94826** | 7 | 35 |
| 26 | 9.66343 | 25 | 9.71524 | 31 | 0.28476 | 9.94819 | 6 | 34 |
| 27 | 9.66368 | 24 | 9.71555 | 31 | 0.28445 | 9.94813 | 7 | 33 |
| 28 | 9.66392 | 24 | 9.71586 | 31 | 0.28414 | 9.94806 | 7 | 32 |
| 29 | 9.66416 | 25 | 9.71617 | 31 | 0.28383 | 9.94799 | 6 | 31 |
| **30** | **9.66441** | 24 | **9.71648** | 31 | **0.28352** | **9.94793** | 7 | 30 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 32 | 31 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.1 | 1.0 |
| 3 | 1.6 | 1.6 |
| 4 | 2.1 | 2.1 |
| 5 | 2.7 | 2.6 |
| 6 | 3.2 | 3.1 |
| 7 | 3.7 | 3.6 |
| 8 | 4.3 | 4.1 |
| 9 | 4.8 | 4.7 |
| 10 | 5.3 | 5.2 |
| 20 | 10.7 | 10.3 |
| 30 | 16.0 | 15.5 |
| 40 | 21.3 | 20.7 |
| 50 | 26.7 | 25.8 |

| | 25 | 24 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.8 | 0.8 |
| 3 | 1.3 | 1.2 |
| 4 | 1.7 | 1.6 |
| 5 | 2.1 | 2.0 |
| 6 | 2.5 | 2.4 |
| 7 | 2.9 | 2.8 |
| 8 | 3.3 | 3.2 |
| 9 | 3.8 | 3.6 |
| 10 | 4.2 | 4.0 |
| 20 | 8.3 | 8.0 |
| 30 | 12.5 | 12.0 |
| 40 | 16.7 | 16.0 |
| 50 | 20.8 | 20.0 |

| | 6 | 7 |
|---|---|---|
| 10 | 1.0 | 1.2 |
| 20 | 2.0 | 2.3 |
| 30 | 3.0 | 3.5 |
| 40 | 4.0 | 4.7 |
| 50 | 5.0 | 5.8 |

PP.

# 62°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.66441** | | **9.71648** | | **0.28352** | **9.94793** | | **30** |
| | | 24 | | 31 | | | 7 | |
| 31 | 9.66465 | | 9.71679 | | 0.28321 | 9.94786 | | 29 |
| | | 24 | | 30 | | | 6 | |
| 32 | 9.66489 | | 9.71709 | | 0.28291 | 9.94780 | | 28 |
| | | 24 | | 31 | | | 7 | |
| 33 | 9.66513 | | 9.71740 | | 0.28260 | 9.94773 | | 27 |
| | | 24 | | 31 | | | 6 | |
| 34 | 9.66537 | | 9.71771 | | 0.28229 | 9.94767 | | 26 |
| | | 25 | | 31 | | | 7 | |
| **35** | **9.66562** | | **9.71802** | | **0.28198** | **9.94760** | | **25** |
| | | 24 | | 31 | | | 7 | |
| 36 | 9.66586 | | 9.71833 | | 0.28167 | 9.94753 | | 24 |
| | | 24 | | 30 | | | 6 | |
| 37 | 9.66610 | | 9.71863 | | 0.28137 | 9.94747 | | 23 |
| | | 24 | | 31 | | | 7 | |
| 38 | 9.66634 | | 9.71894 | | 0.28106 | 9.94740 | | 22 |
| | | 24 | | 31 | | | 6 | |
| 39 | 9.66658 | | 9.71925 | | 0.28075 | 9.94734 | | 21 |
| | | 24 | | 30 | | | 7 | |
| **40** | **9.66682** | | **9.71955** | | **0.28045** | **9.94727** | | **20** |
| | | 24 | | 31 | | | 7 | |
| 41 | 9.66706 | | 9.71986 | | 0.28014 | 9.94720 | | 19 |
| | | 25 | | 31 | | | 6 | |
| 42 | 9.66731 | | 9.72017 | | 0.27983 | 9.94714 | | 18 |
| | | 24 | | 31 | | | 7 | |
| 43 | 9.66755 | | 9.72048 | | 0.27952 | 9.94707 | | 17 |
| | | 24 | | 30 | | | 7 | |
| 44 | 9.66779 | | 9.72078 | | 0.27922 | 9.94700 | | 16 |
| | | 24 | | 31 | | | 6 | |
| **45** | **9.66803** | | **9.72109** | | **0.27891** | **9.94694** | | **15** |
| | | 24 | | 31 | | | 7 | |
| 46 | 9.66827 | | 9.72140 | | 0.27860 | 9.94687 | | 14 |
| | | 24 | | 30 | | | 7 | |
| 47 | 9.66851 | | 9.72170 | | 0.27830 | 9.94680 | | 13 |
| | | 24 | | 31 | | | 6 | |
| 48 | 9.66875 | | 9.72201 | | 0.27799 | 9.94674 | | 12 |
| | | 24 | | 30 | | | 7 | |
| 49 | 9.66899 | | 9.72231 | | 0.27769 | 9.94667 | | 11 |
| | | 23 | | 31 | | | 7 | |
| **50** | **9.66922** | | **9.72262** | | **0.27738** | **9.94660** | | **10** |
| | | 24 | | 31 | | | 6 | |
| 51 | 9.66946 | | 9.72293 | | 0.27707 | 9.94654 | | 9 |
| | | 24 | | 30 | | | 7 | |
| 52 | 9.66970 | | 9.72323 | | 0.27677 | 9.94647 | | 8 |
| | | 24 | | 31 | | | 7 | |
| 53 | 9.66994 | | 9.72354 | | 0.27646 | 9.94640 | | 7 |
| | | 24 | | 30 | | | 6 | |
| 54 | 9.67018 | | 9.72384 | | 0.27616 | 9.94634 | | 6 |
| | | 24 | | 31 | | | 7 | |
| **55** | **9.67042** | | **9.72415** | | **0.27585** | **9.94627** | | **5** |
| | | 24 | | 30 | | | 7 | |
| 56 | 9.67066 | | 9.72445 | | 0.27555 | 9.94620 | | 4 |
| | | 24 | | 31 | | | 6 | |
| 57 | 9.67090 | | 9.72476 | | 0.27524 | 9.94614 | | 3 |
| | | 23 | | 30 | | | 7 | |
| 58 | 9.67113 | | 9.72506 | | 0.27494 | 9.94607 | | 2 |
| | | 24 | | 31 | | | 7 | |
| 59 | 9.67137 | | 9.72537 | | 0.27463 | 9.94600 | | 1 |
| | | 24 | | 30 | | | 7 | |
| **60** | **9.67161** | | **9.72567** | | **0.27433** | **9.94593** | | **0** |
| | | 24 | | 31 | | | 6 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 31 | 30 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.0 | 1.0 |
| 3 | 1.6 | 1.5 |
| 4 | 2.1 | 2.0 |
| 5 | 2.6 | 2.5 |
| 6 | 3.1 | 3.0 |
| 7 | 3.6 | 3.5 |
| 8 | 4.1 | 4.0 |
| 9 | 4.7 | 4.5 |
| 10 | 5.2 | 5.0 |
| 20 | 10.3 | 10.0 |
| 30 | 15.5 | 15.0 |
| 40 | 20.7 | 20.0 |
| 50 | 25.8 | 25.0 |

| | 24 | 23 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.8 | 0.8 |
| 3 | 1.2 | 1.2 |
| 4 | 1.6 | 1.5 |
| 5 | 2.0 | 1.9 |
| 6 | 2.4 | 2.3 |
| 7 | 2.8 | 2.7 |
| 8 | 3.2 | 3.1 |
| 9 | 3.6 | 3.5 |
| 10 | 4.0 | 3.8 |
| 20 | 8.0 | 7.7 |
| 30 | 12.0 | 11.5 |
| 40 | 16.0 | 15.3 |
| 50 | 20.0 | 19.2 |

| | 6 | 7 |
|---|---|---|
| 10 | 1.0 | 1.2 |
| 20 | 2.0 | 2.3 |
| 30 | 3.0 | 3.5 |
| 40 | 4.0 | 4.7 |
| 50 | 5.0 | 5.8 |

PP.

# 28°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.67161 | | 9.72567 | | 0.27433 | 9.94593 | | 60 | |
| | | 24 | | 31 | | | 6 | | |
| 1 | 9.67185 | | 9.72598 | | 0.27402 | 9.94587 | | 59 | |
| | | 23 | | 30 | | | 7 | | |
| 2 | 9.67208 | | 9.72628 | | 0.27372 | 9.94580 | | 58 | |
| | | 24 | | 31 | | | 7 | | |
| 3 | 9.67232 | | 9.72659 | | 0.27341 | 9.94573 | | 57 | |
| | | 24 | | 30 | | | 6 | | |
| 4 | 9.67256 | | 9.72689 | | 0.27311 | 9.94567 | | 56 | |
| | | 24 | | 31 | | | 7 | | |
| 5 | 9.67280 | | 9.72720 | | 0.27280 | 9.94560 | | 55 | 31 30 |
| | | 23 | | 30 | | | 7 | | 1 0.5 0.5 |
| 6 | 9.67303 | | 9.72750 | | 0.27250 | 9.94553 | | 54 | 2 1.0 1.0 |
| | | 24 | | 30 | | | 7 | | 3 1.6 1.5 |
| 7 | 9.67327 | | 9.72780 | | 0.27220 | 9.94546 | | 53 | 4 2.1 2.0 |
| | | 23 | | 31 | | | 6 | | 5 2.6 2.5 |
| 8 | 9.67350 | | 9.72811 | | 0.27189 | 9.94540 | | 52 | 6 3.1 3.0 |
| | | 24 | | 30 | | | 7 | | 7 3.6 3.5 |
| 9 | 9.67374 | | 9.72841 | | 0.27159 | 9.94533 | | 51 | 8 4.1 4.0 |
| | | 24 | | 31 | | | 7 | | 9 4.7 4.5 |
| 10 | 9.67398 | | 9.72872 | | 0.27128 | 9.94526 | | 50 | 10 5.2 5.0 |
| | | 23 | | 30 | | | 7 | | 20 10.3 10.0 |
| 11 | 9.67421 | | 9.72902 | | 0.27098 | 9.94519 | | 49 | 30 15.5 15.0 |
| | | 24 | | 30 | | | 6 | | 40 20.7 20.0 |
| 12 | 9.67445 | | 9.72932 | | 0.27068 | 9.94513 | | 48 | 50 25.8 25.0 |
| | | 23 | | 31 | | | 7 | | |
| 13 | 9.67468 | | 9.72963 | | 0.27037 | 9.94506 | | 47 | |
| | | 24 | | 30 | | | 7 | | |
| 14 | 9.67492 | | 9.72993 | | 0.27007 | 9.94499 | | 46 | |
| | | 23 | | 30 | | | 7 | | 24 23 |
| 15 | 9.67515 | | 9.73023 | | 0.26977 | 9.94492 | | 45 | 1 0.4 0.4 |
| | | 24 | | 31 | | | 7 | | 2 0.8 0.8 |
| 16 | 9.67539 | | 9.73054 | | 0.26946 | 9.94485 | | 44 | 3 1.2 1.2 |
| | | 23 | | 30 | | | 6 | | 4 1.6 1.5 |
| 17 | 9.67562 | | 9.73084 | | 0.26916 | 9.94479 | | 43 | 5 2.0 1.9 |
| | | 24 | | 30 | | | 7 | | 6 2.4 2.3 |
| 18 | 9.67586 | | 9.73114 | | 0.26886 | 9.94472 | | 42 | 7 2.8 2.7 |
| | | 23 | | 30 | | | 7 | | 8 3.2 3.1 |
| 19 | 9.67609 | | 9.73144 | | 0.26856 | 9.94465 | | 41 | 9 3.6 3.5 |
| | | 24 | | 31 | | | 7 | | 10 4.0 3.8 |
| 20 | 9.67633 | | 9.73175 | | 0.26825 | 9.94458 | | 40 | 20 8.0 7.7 |
| | | 23 | | 30 | | | 7 | | 30 12.0 11.5 |
| 21 | 9.67656 | | 9.73205 | | 0.26795 | 9.94451 | | 39 | 40 16.0 15.3 |
| | | 24 | | 30 | | | 6 | | 50 20.0 19.2 |
| 22 | 9.67680 | | 9.73235 | | 0.26765 | 9.94445 | | 38 | |
| | | 23 | | 30 | | | 7 | | |
| 23 | 9.67703 | | 9.73265 | | 0.26735 | 9.94438 | | 37 | |
| | | 23 | | 30 | | | 7 | | |
| 24 | 9.67726 | | 9.73295 | | 0.26705 | 9.94431 | | 36 | 6 7 |
| | | 24 | | 31 | | | 7 | | 10 1.0 1.2 |
| 25 | 9.67750 | | 9.73326 | | 0.26674 | 9.94424 | | 35 | 20 2.0 2.3 |
| | | 23 | | 30 | | | 7 | | 30 3.0 3.5 |
| 26 | 9.67773 | | 9.73356 | | 0.26644 | 9.94417 | | 34 | 40 4.0 4.7 |
| | | 23 | | 30 | | | 7 | | 50 5.0 5.8 |
| 27 | 9.67796 | | 9.73386 | | 0.26614 | 9.94410 | | 33 | |
| | | 24 | | 30 | | | 6 | | |
| 28 | 9.67820 | | 9.73416 | | 0.26584 | 9.94404 | | 32 | |
| | | 23 | | 30 | | | 7 | | |
| 29 | 9.67843 | | 9.73446 | | 0.26554 | 9.94397 | | 31 | |
| | | 23 | | 30 | | | 7 | | |
| 30 | 9.67866 | | 9.73476 | | 0.26524 | 9.94390 | | 30 | |
| | | 24 | | 31 | | | 7 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.67866** | 24 | **9.73476** | 31 | **0.26524** | **9.94390** | 7 | **30** | |
| 31 | 9.67890 | 23 | 9.73507 | 30 | 0.26493 | 9.94383 | 7 | 29 | |
| 32 | 9.67913 | 23 | 9.73537 | 30 | 0.26463 | 9.94376 | 7 | 28 | |
| 33 | 9.67936 | 23 | 9.73567 | 30 | 0.26433 | 9.94369 | 7 | 27 | |
| 34 | 9.67959 | 23 | 9.73597 | 30 | 0.26403 | 9.94362 | 7 | 26 | |
| **35** | **9.67982** | 24 | **9.73627** | 30 | **0.26373** | **9.94355** | 6 | **25** | 30 29<br>1 0.5 0.5<br>2 1.0 1.0<br>3 1.5 1.5<br>4 2.0 1.9<br>5 2.5 2.4<br>6 3.0 2.9<br>7 3.5 3.4<br>8 4.0 3.9<br>9 4.5 4.4<br>10 5.0 4.8<br>20 10.0 9.7<br>30 15.0 14.5<br>40 20.0 19.3<br>50 25.0 24.2 |
| 36 | 9.68006 | 23 | 9.73657 | 30 | 0.26343 | 9.94349 | 7 | 24 | |
| 37 | 9.68029 | 23 | 9.73687 | 30 | 0.26313 | 9.94342 | 7 | 23 | |
| 38 | 9.68052 | 23 | 9.73717 | 30 | 0.26283 | 9.94335 | 7 | 22 | |
| 39 | 9.68075 | 23 | 9.73747 | 30 | 0.26253 | 9.94328 | 7 | 21 | |
| **40** | **9.68098** | 23 | **9.73777** | 30 | **0.26223** | **9.94321** | 7 | **20** | |
| 41 | 9.68121 | 23 | 9.73807 | 30 | 0.26193 | 9.94314 | 7 | 19 | |
| 42 | 9.68144 | 23 | 9.73837 | 30 | 0.26163 | 9.94307 | 7 | 18 | |
| 43 | 9.68167 | 23 | 9.73867 | 30 | 0.26133 | 9.94300 | 7 | 17 | |
| 44 | 9.68190 | 23 | 9.73897 | 30 | 0.26103 | 9.94293 | 7 | 16 | |
| **45** | **9.68213** | 24 | **9.73927** | 30 | **0.26073** | **9.94286** | 7 | **15** | 23 22<br>1 0.4 0.4<br>2 0.8 0.7<br>3 1.2 1.1<br>4 1.5 1.5<br>5 1.9 1.8<br>6 2.3 2.2<br>7 2.7 2.6<br>8 3.1 2.9<br>9 3.5 3.3<br>10 3.8 3.7<br>20 7.7 7.3<br>30 11.5 11.0<br>40 15.3 14.7<br>50 19.2 18.3 |
| 46 | 9.68237 | 23 | 9.73957 | 30 | 0.26043 | 9.94279 | 6 | 14 | |
| 47 | 9.68260 | 23 | 9.73987 | 30 | 0.26013 | 9.94273 | 7 | 13 | |
| 48 | 9.68283 | 22 | 9.74017 | 30 | 0.25983 | 9.94266 | 7 | 12 | |
| 49 | 9.68305 | 23 | 9.74047 | 30 | 0.25953 | 9.94259 | 7 | 11 | |
| **50** | **9.68328** | 23 | **9.74077** | 30 | **0.25923** | **9.94252** | 7 | **10** | |
| 51 | 9.68351 | 23 | 9.74107 | 30 | 0.25893 | 9.94245 | 7 | 9 | |
| 52 | 9.68374 | 23 | 9.74137 | 29 | 0.25863 | 9.94238 | 7 | 8 | |
| 53 | 9.68397 | 23 | 9.74166 | 30 | 0.25834 | 9.94231 | 7 | 7 | |
| 54 | 9.68420 | 23 | 9.74196 | 30 | 0.25804 | 9.94224 | 7 | 6 | 6 7<br>10 1.0 1.2<br>20 2.0 2.3<br>30 3.0 3.5<br>40 4.0 4.7<br>50 5.0 5.8 |
| **55** | **9.68443** | 23 | **9.74226** | 30 | **0.25774** | **9.94217** | 7 | **5** | |
| 56 | 9.68466 | 23 | 9.74256 | 30 | 0.25744 | 9.94210 | 7 | 4 | |
| 57 | 9.68489 | 23 | 9.74286 | 30 | 0.25714 | 9.94203 | 7 | 3 | |
| 58 | 9.68512 | 22 | 9.74316 | 29 | 0.25684 | 9.94196 | 7 | 2 | |
| 59 | 9.68534 | 23 | 9.74345 | 30 | 0.25655 | 9.94189 | 7 | 1 | |
| **60** | **9.68557** | | **9.74375** | | **0.25625** | **9.94182** | | **0** | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 29°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.68557 | 23 | 9.74375 | 30 | 0.25625 | 9.94182 | 7 | 60 | |
| 1 | 9.68580 | 23 | 9.74405 | 30 | 0.25595 | 9.94175 | 7 | 59 | |
| 2 | 9.68603 | 22 | 9.74435 | 30 | 0.25565 | 9.94168 | 7 | 58 | |
| 3 | 9.68625 | 23 | 9.74465 | 29 | 0.25535 | 9.94161 | 7 | 57 | |
| 4 | 9.68648 | 23 | 9.74494 | 30 | 0.25506 | 9.94154 | 7 | 56 | |
| 5 | 9.68671 | 23 | 9.74524 | 30 | 0.25476 | 9.94147 | 7 | 55 | |
| 6 | 9.68694 | 22 | 9.74554 | 29 | 0.25446 | 9.94140 | 7 | 54 | |
| 7 | 9.68716 | 23 | 9.74583 | 30 | 0.25417 | 9.94133 | 7 | 53 | |
| 8 | 9.68739 | 23 | 9.74613 | 30 | 0.25387 | 9.94126 | 7 | 52 | |
| 9 | 9.68762 | 22 | 9.74643 | 30 | 0.25357 | 9.94119 | 7 | 51 | |
| 10 | 9.68784 | 23 | 9.74673 | 29 | 0.25327 | 9.94112 | 7 | 50 | |
| 11 | 9.68807 | 22 | 9.74702 | 30 | 0.25298 | 9.94105 | 7 | 49 | |
| 12 | 9.68829 | 23 | 9.74732 | 30 | 0.25268 | 9.94098 | 8 | 48 | |
| 13 | 9.68852 | 23 | 9.74762 | 29 | 0.25238 | 9.94090 | 7 | 47 | |
| 14 | 9.68875 | 22 | 9.74791 | 30 | 0.25209 | 9.94083 | 7 | 46 | |
| 15 | 9.68897 | 23 | 9.74821 | 30 | 0.25179 | 9.94076 | 7 | 45 | |
| 16 | 9.68920 | 22 | 9.74851 | 29 | 0.25149 | 9.94069 | 7 | 44 | |
| 17 | 9.68942 | 23 | 9.74880 | 30 | 0.25120 | 9.94062 | 7 | 43 | |
| 18 | 9.68965 | 22 | 9.74910 | 29 | 0.25090 | 9.94055 | 7 | 42 | |
| 19 | 9.68987 | 23 | 9.74939 | 30 | 0.25061 | 9.94048 | 7 | 41 | |
| 20 | 9.69010 | 22 | 9.74969 | 29 | 0.25031 | 9.94041 | 7 | 40 | |
| 21 | 9.69032 | 23 | 9.74998 | 30 | 0.25002 | 9.94034 | 7 | 39 | |
| 22 | 9.69055 | 22 | 9.75028 | 30 | 0.24972 | 9.94027 | 7 | 38 | |
| 23 | 9.69077 | 23 | 9.75058 | 29 | 0.24942 | 9.94020 | 8 | 37 | |
| 24 | 9.69100 | 22 | 9.75087 | 30 | 0.24913 | 9.94012 | 7 | 36 | |
| 25 | 9.69122 | 22 | 9.75117 | 29 | 0.24883 | 9.94005 | 7 | 35 | |
| 26 | 9.69144 | 23 | 9.75146 | 30 | 0.24854 | 9.93998 | 7 | 34 | |
| 27 | 9.69167 | 22 | 9.75176 | 29 | 0.24824 | 9.93991 | 7 | 33 | |
| 28 | 9.69189 | 23 | 9.75205 | 30 | 0.24795 | 9.93984 | 7 | 32 | |
| 29 | 9.69212 | 22 | 9.75235 | 29 | 0.24765 | 9.93977 | 7 | 31 | |
| 30 | 9.69234 | 22 | 9.75264 | 30 | 0.24736 | 9.93970 | 7 | 30 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| | 30 | 29 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.0 | 1.0 |
| 3 | 1.5 | 1.5 |
| 4 | 2.0 | 1.9 |
| 5 | 2.5 | 2.4 |
| 6 | 3.0 | 2.9 |
| 7 | 3.5 | 3.4 |
| 8 | 4.0 | 3.9 |
| 9 | 4.5 | 4.4 |
| 10 | 5.0 | 4.8 |
| 20 | 10.0 | 9.7 |
| 30 | 15.0 | 14.5 |
| 40 | 20.0 | 19.3 |
| 50 | 25.0 | 24.2 |

| | 23 | 22 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.8 | 0.7 |
| 3 | 1.2 | 1.1 |
| 4 | 1.5 | 1.5 |
| 5 | 1.9 | 1.8 |
| 6 | 2.3 | 2.2 |
| 7 | 2.7 | 2.6 |
| 8 | 3.1 | 2.9 |
| 9 | 3.5 | 3.3 |
| 10 | 3.8 | 3.7 |
| 20 | 7.7 | 7.3 |
| 30 | 11.5 | 11.0 |
| 40 | 15.3 | 14.7 |
| 50 | 19.2 | 18.3 |

| | 7 | 8 |
|---|---|---|
| 10 | 1.2 | 1.3 |
| 20 | 2.3 | 2.7 |
| 30 | 3.5 | 4.0 |
| 40 | 4.7 | 5.3 |
| 50 | 5.8 | 6.7 |

# 60°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.69234** | 22 | **9.75264** | 30 | **0.24736** | **9.93970** | 7 | **30** |
| 31 | 9.69256 | 23 | 9.75294 | 29 | 0.24706 | 9.93963 | 8 | 29 |
| 32 | 9.69279 | 22 | 9.75323 | 30 | 0.24677 | 9.93955 | 7 | 28 |
| 33 | 9.69301 | 22 | 9.75353 | 29 | 0.24647 | 9.93948 | 7 | 27 |
| 34 | 9.69323 | 22 | 9.75382 | 29 | 0.24618 | 9.93941 | 7 | 26 |
| **35** | **9.69345** | 23 | **9.75411** | 30 | **0.24589** | **9.93934** | 7 | **25** |
| 36 | 9.69368 | 22 | 9.75441 | 29 | 0.24559 | 9.93927 | 7 | 24 |
| 37 | 9.69390 | 22 | 9.75470 | 30 | 0.24530 | 9.93920 | 8 | 23 |
| 38 | 9.69412 | 22 | 9.75500 | 29 | 0.24500 | 9.93912 | 7 | 22 |
| 39 | 9.69434 | 22 | 9.75529 | 29 | 0.24471 | 9.93905 | 7 | 21 |
| **40** | **9.69456** | 23 | **9.75558** | 30 | **0.24442** | **9.93898** | 7 | **20** |
| 41 | 9.69479 | 22 | 9.75588 | 29 | 0.24412 | 9.93891 | 7 | 19 |
| 42 | 9.69501 | 22 | 9.75617 | 30 | 0.24383 | 9.93884 | 8 | 18 |
| 43 | 9.69523 | 22 | 9.75647 | 29 | 0.24353 | 9.93876 | 7 | 17 |
| 44 | 9.69545 | 22 | 9.75676 | 29 | 0.24324 | 9.93869 | 7 | 16 |
| **45** | **9.69567** | 22 | **9.75705** | 30 | **0.24295** | **9.93862** | 7 | **15** |
| 46 | 9.69589 | 22 | 9.75735 | 29 | 0.24265 | 9.93855 | 8 | 14 |
| 47 | 9.69611 | 22 | 9.75764 | 29 | 0.24236 | 9.93847 | 7 | 13 |
| 48 | 9.69633 | 22 | 9.75793 | 29 | 0.24207 | 9.93840 | 7 | 12 |
| 49 | 9.69655 | 22 | 9.75822 | 30 | 0.24178 | 9.93833 | 7 | 11 |
| **50** | **9.69677** | 22 | **9.75852** | 29 | **0.24148** | **9.93826** | 7 | **10** |
| 51 | 9.69699 | 22 | 9.75881 | 29 | 0.24119 | 9.93819 | 8 | 9 |
| 52 | 9.69721 | 22 | 9.75910 | 29 | 0.24090 | 9.93811 | 7 | 8 |
| 53 | 9.69743 | 22 | 9.75939 | 30 | 0.24061 | 9.93804 | 7 | 7 |
| 54 | 9.69765 | 22 | 9.75969 | 29 | 0.24031 | 9.93797 | 8 | 6 |
| **55** | **9.69787** | 22 | **9.75998** | 29 | **0.24002** | **9.93789** | 7 | **5** |
| 56 | 9.69809 | 22 | 9.76027 | 29 | 0.23973 | 9.93782 | 7 | 4 |
| 57 | 9.69831 | 22 | 9.76056 | 30 | 0.23944 | 9.93775 | 7 | 3 |
| 58 | 9.69853 | 22 | 9.76086 | 29 | 0.23914 | 9.93768 | 8 | 2 |
| 59 | 9.69875 | 22 | 9.76115 | 29 | 0.23885 | 9.93760 | 7 | 1 |
| **60** | **9.69897** | | **9.76144** | | **0.23856** | **9.93753** | | **0** |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 30 | 29 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.0 | 1.0 |
| 3 | 1.5 | 1.5 |
| 4 | 2.0 | 1.9 |
| 5 | 2.5 | 2.4 |
| 6 | 3.0 | 2.9 |
| 7 | 3.5 | 3.4 |
| 8 | 4.0 | 3.9 |
| 9 | 4.5 | 4.4 |
| 10 | 5.0 | 4.8 |
| 20 | 10.0 | 9.7 |
| 30 | 15.0 | 14.5 |
| 40 | 20.0 | 19.3 |
| 50 | 25.0 | 24.2 |

| | 23 | 22 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.8 | 0.7 |
| 3 | 1.2 | 1.1 |
| 4 | 1.5 | 1.5 |
| 5 | 1.9 | 1.8 |
| 6 | 2.3 | 2.2 |
| 7 | 2.7 | 2.6 |
| 8 | 3.1 | 2.9 |
| 9 | 3.5 | 3.3 |
| 10 | 3.8 | 3.7 |
| 20 | 7.7 | 7.3 |
| 30 | 11.5 | 11.0 |
| 40 | 15.3 | 14.7 |
| 50 | 19.2 | 18.3 |

| | 7 | 8 |
|---|---|---|
| 10 | 1.2 | 1.3 |
| 20 | 2.3 | 2.7 |
| 30 | 3.5 | 4.0 |
| 40 | 4.7 | 5.3 |
| 50 | 5.8 | 6.7 |

PP.

# 30°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.69897 | | 9.76144 | | 0.23856 | 9.93753 | | 60 | |
| | | 22 | | 29 | | | 7 | | |
| 1 | 9.69919 | | 9.76173 | | 0.23827 | 9.93746 | | 59 | |
| | | 22 | | 29 | | | 8 | | |
| 2 | 9.69941 | | 9.76202 | | 0.23798 | 9.93738 | | 58 | |
| | | 22 | | 29 | | | 7 | | |
| 3 | 9.69963 | | 9.76231 | | 0.23769 | 9.93731 | | 57 | |
| | | 21 | | 30 | | | 7 | | |
| 4 | 9.69984 | | 9.76261 | | 0.23739 | 9.93724 | | 56 | |
| | | 22 | | 29 | | | 7 | | |
| 5 | 9.70006 | | 9.76290 | | 0.23710 | 9.93717 | | 55 | 30 29 |
| | | 22 | | 29 | | | 8 | | 1 0.5 0.5 |
| 6 | 9.70028 | | 9.76319 | | 0.23681 | 9.93709 | | 54 | 2 1.0 1.0 |
| | | 22 | | 29 | | | 7 | | 3 1.5 1.5 |
| 7 | 9.70050 | | 9.76348 | | 0.23652 | 9.93702 | | 53 | 4 2.0 1.9 |
| | | 22 | | 29 | | | 7 | | 5 2.5 2.4 |
| 8 | 9.70072 | | 9.76377 | | 0.23623 | 9.93695 | | 52 | 6 3.0 2.9 |
| | | 21 | | 29 | | | 8 | | 7 3.5 3.4 |
| 9 | 9.70093 | | 9.76406 | | 0.23594 | 9.93687 | | 51 | 8 4.0 3.9 |
| | | 22 | | 29 | | | 7 | | 9 4.5 4.4 |
| 10 | 9.70115 | | 9.76435 | | 0.23565 | 9.93680 | | 50 | 10 5.0 4.8 |
| | | 22 | | 29 | | | 7 | | 20 10.0 9 7 |
| 11 | 9.70137 | | 9.76464 | | 0.23536 | 9.93673 | | 49 | 30 15.0 14.5 |
| | | 22 | | 29 | | | 8 | | 40 20.0 19.3 |
| 12 | 9.70159 | | 9.76493 | | 0.23507 | 9.93665 | | 48 | 50 25.0 24.2 |
| | | 21 | | 29 | | | 7 | | |
| 13 | 9.70180 | | 9.76522 | | 0.23478 | 9.93658 | | 47 | |
| | | 22 | | 29 | | | 8 | | |
| 14 | 9.70202 | | 9.76551 | | 0.23449 | 9.93650 | | 46 | |
| | | 22 | | 29 | | | 7 | | 22 21 |
| 15 | 9.70224 | | 9.76580 | | 0.23420 | 9.93643 | | 45 | 1 0.4 0.4 |
| | | 21 | | 29 | | | 7 | | 2 0.7 0.7 |
| 16 | 9.70245 | | 9.76609 | | 0.23391 | 9.93636 | | 44 | 3 1.1 1.1 |
| | | 22 | | 30 | | | 8 | | 4 1.5 1.4 |
| 17 | 9.70267 | | 9.76639 | | 0.23361 | 9.93628 | | 43 | 5 1.8 1.8 |
| | | 21 | | 29 | | | 7 | | 6 2.2 2.1 |
| 18 | 9.70288 | | 9.76668 | | 0.23332 | 9.93621 | | 42 | 7 2.6 2.5 |
| | | 22 | | 29 | | | 7 | | 8 2.9 2.8 |
| 19 | 9.70310 | | 9.76697 | | 0.23303 | 9.93614 | | 41 | 9 3 3 3.2 |
| | | 22 | | 28 | | | 8 | | 10 3 7 3 5 |
| 20 | 9.70332 | | 9.76725 | | 0.23275 | 9.93606 | | 40 | 20 7 3 7 0 |
| | | 21 | | 29 | | | 7 | | 30 11 0 10 5 |
| 21 | 9.70353 | | 9.76754 | | 0.23246 | 9.93599 | | 39 | 40 14 7 14.0 |
| | | 22 | | 29 | | | 8 | | 50 18.3 17.5 |
| 22 | 9.70375 | | 9.76783 | | 0.23217 | 9.93591 | | 38 | |
| | | 21 | | 29 | | | 7 | | |
| 23 | 9.70396 | | 9.76812 | | 0.23188 | 9.93584 | | 37 | |
| | | 22 | | 29 | | | 7 | | |
| 24 | 9.70418 | | 9.76841 | | 0.23159 | 9.93577 | | 36 | 7 8 |
| | | 21 | | 29 | | | 8 | | 10 1.2 1.3 |
| 25 | 9.70439 | | 9.76870 | | 0.23130 | 9.93569 | | 35 | 20 2 3 2.7 |
| | | 22 | | 29 | | | 7 | | 30 3 5 4.0 |
| 26 | 9.70461 | | 9.76899 | | 0.23101 | 9.93562 | | 34 | 40 4.7 5.3 |
| | | 21 | | 29 | | | 8 | | 50 5.8 6.7 |
| 27 | 9.70482 | | 9.76928 | | 0.23072 | 9.93554 | | 33 | |
| | | 22 | | 29 | | | 7 | | |
| 28 | 9.70504 | | 9.76957 | | 0.23043 | 9.93547 | | 32 | |
| | | 21 | | 29 | | | 8 | | |
| 29 | 9.70525 | | 9.76986 | | 0.23014 | 9.93539 | | 31 | |
| | | 22 | | 29 | | | 7 | | |
| 30 | 9.70547 | | 9.77015 | | 0.22985 | 9.93532 | | 30 | |
| | | 21 | | 29 | | | 7 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.70547** | | **9.77015** | | **0.22985** | **9.93532** | | 30 |
| | | 21 | | 29 | | | 7 | |
| 31 | 9.70568 | | 9.77044 | | 0.22956 | 9.93525 | | 29 |
| | | 22 | | 29 | | | 8 | |
| 32 | 9.70590 | | 9.77073 | | 0.22927 | 9.93517 | | 28 |
| | | 21 | | 28 | | | 7 | |
| 33 | 9.70611 | | 9.77101 | | 0.22899 | 9.93510 | | 27 |
| | | 22 | | 29 | | | 8 | |
| 34 | 9.70633 | | 9.77130 | | 0.22870 | 9.93502 | | 26 |
| | | 21 | | 29 | | | 7 | |
| **35** | **9.70654** | | **9.77159** | | **0.22841** | **9.93495** | | 25 |
| | | 21 | | 29 | | | 8 | |
| 36 | 9.70675 | | 9.77188 | | 0.22812 | 9.93487 | | 24 |
| | | 22 | | 29 | | | 7 | |
| 37 | 9.70697 | | 9.77217 | | 0.22783 | 9.93480 | | 23 |
| | | 21 | | 29 | | | 8 | |
| 38 | 9.70718 | | 9.77246 | | 0.22754 | 9.93472 | | 22 |
| | | 21 | | 28 | | | 7 | |
| 39 | 9.70739 | | 9.77274 | | 0.22726 | 9.93465 | | 21 |
| | | 22 | | 29 | | | 8 | |
| **40** | **9.70761** | | **9.77303** | | **0.22697** | **9.93457** | | 20 |
| | | 21 | | 29 | | | 7 | |
| 41 | 9.70782 | | 9.77332 | | 0.22668 | 9.93450 | | 19 |
| | | 21 | | 29 | | | 8 | |
| 42 | 9.70803 | | 9.77361 | | 0.22639 | 9.93442 | | 18 |
| | | 21 | | 29 | | | 7 | |
| 43 | 9.70824 | | 9.77390 | | 0.22610 | 9.93435 | | 17 |
| | | 22 | | 28 | | | 8 | |
| 44 | 9.70846 | | 9.77418 | | 0.22582 | 9.93427 | | 16 |
| | | 21 | | 29 | | | 7 | |
| **45** | **9.70867** | | **9.77447** | | **0.22553** | **9.93420** | | 15 |
| | | 21 | | 29 | | | 8 | |
| 46 | 9.70888 | | 9.77476 | | 0.22524 | 9.93412 | | 14 |
| | | 21 | | 29 | | | 7 | |
| 47 | 9.70909 | | 9.77505 | | 0.22495 | 9.93405 | | 13 |
| | | 22 | | 28 | | | 8 | |
| 48 | 9.70931 | | 9.77533 | | 0.22467 | 9.93397 | | 12 |
| | | 21 | | 29 | | | 7 | |
| 49 | 9.70952 | | 9.77562 | | 0.22438 | 9.93390 | | 11 |
| | | 21 | | 29 | | | 8 | |
| **50** | **9.70973** | | **9.77591** | | **0.22409** | **9.93382** | | 10 |
| | | 21 | | 28 | | | 7 | |
| 51 | 9.70994 | | 9.77619 | | 0.22381 | 9.93375 | | 9 |
| | | 21 | | 29 | | | 8 | |
| 52 | 9.71015 | | 9.77648 | | 0.22352 | 9.93367 | | 8 |
| | | 21 | | 29 | | | 7 | |
| 53 | 9.71036 | | 9.77677 | | 0.22323 | 9.93360 | | 7 |
| | | 22 | | 29 | | | 8 | |
| 54 | 9.71058 | | 9.77706 | | 0.22294 | 9.93352 | | 6 |
| | | 21 | | 28 | | | 8 | |
| **55** | **9.71079** | | **9.77734** | | **0.22266** | **9.93344** | | 5 |
| | | 21 | | 29 | | | 7 | |
| 56 | 9.71100 | | 9.77763 | | 0.22237 | 9.93337 | | 4 |
| | | 21 | | 28 | | | 8 | |
| 57 | 9.71121 | | 9.77791 | | 0.22209 | 9.93329 | | 3 |
| | | 21 | | 29 | | | 7 | |
| 58 | 9.71142 | | 9.77820 | | 0.22180 | 9.93322 | | 2 |
| | | 21 | | 29 | | | 8 | |
| 59 | 9.71163 | | 9.77849 | | 0.22151 | 9.93314 | | 1 |
| | | 21 | | 28 | | | 7 | |
| **60** | **9.71184** | | **9.77877** | | **0.22123** | **9.93307** | | 0 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 29 | 28 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.0 | 0.9 |
| 3 | 1.5 | 1.4 |
| 4 | 1.9 | 1.9 |
| 5 | 2.4 | 2.3 |
| 6 | 2.9 | 2.8 |
| 7 | 3.4 | 3.3 |
| 8 | 3.9 | 3.7 |
| 9 | 4.4 | 4.2 |
| 10 | 4.8 | 4.7 |
| 20 | 9.7 | 9.3 |
| 30 | 14.5 | 14.0 |
| 40 | 19.3 | 18.7 |
| 50 | 24.2 | 23.3 |

| | 22 | 21 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.7 | 0.7 |
| 3 | 1.1 | 1.1 |
| 4 | 1.5 | 1.4 |
| 5 | 1.8 | 1.8 |
| 6 | 2.2 | 2.1 |
| 7 | 2.6 | 2.5 |
| 8 | 2.9 | 2.8 |
| 9 | 3.3 | 3.2 |
| 10 | 3.7 | 3.5 |
| 20 | 7.3 | 7.0 |
| 30 | 11.0 | 10.5 |
| 40 | 14.7 | 14.0 |
| 50 | 18.3 | 17.5 |

| | 7 | 8 |
|---|---|---|
| 10 | 1.2 | 1.3 |
| 20 | 2.3 | 2.7 |
| 30 | 3.5 | 4.0 |
| 40 | 4.7 | 5.3 |
| 50 | 5.8 | 6.7 |

PP.

# 31°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.71184 | 21 | 9.77877 | 29 | 0.22123 | 9.93307 | 8 | 60 |
| 1 | 9.71205 | 21 | 9.77906 | 29 | 0.22094 | 9.93299 | 8 | 59 |
| 2 | 9.71226 | 21 | 9.77935 | 28 | 0.22065 | 9.93291 | 7 | 58 |
| 3 | 9.71247 | 21 | 9.77963 | 29 | 0.22037 | 9.93284 | 8 | 57 |
| 4 | 9.71268 | 21 | 9.77992 | 28 | 0.22008 | 9.93276 | 7 | 56 |
| 5 | 9.71289 | 21 | 9.78020 | 29 | 0.21980 | 9.93269 | 8 | 55 |
| 6 | 9.71310 | 21 | 9.78049 | 28 | 0.21951 | 9.93261 | 8 | 54 |
| 7 | 9.71331 | 21 | 9.78077 | 29 | 0.21923 | 9.93253 | 7 | 53 |
| 8 | 9.71352 | 21 | 9.78106 | 29 | 0.21894 | 9.93246 | 8 | 52 |
| 9 | 9.71373 | 20 | 9.78135 | 28 | 0.21865 | 9.93238 | 8 | 51 |
| 10 | 9.71393 | 21 | 9.78163 | 29 | 0.21837 | 9.93230 | 7 | 50 |
| 11 | 9.71414 | 21 | 9.78192 | 28 | 0.21808 | 9.93223 | 8 | 49 |
| 12 | 9.71435 | 21 | 9.78220 | 29 | 0.21780 | 9.93215 | 8 | 48 |
| 13 | 9.71456 | 21 | 9.78249 | 28 | 0.21751 | 9.93207 | 7 | 47 |
| 14 | 9.71477 | 21 | 9.78277 | 29 | 0.21723 | 9.93200 | 8 | 46 |
| 15 | 9.71498 | 21 | 9.78306 | 28 | 0.21694 | 9.93192 | 8 | 45 |
| 16 | 9.71519 | 20 | 9.78334 | 29 | 0.21666 | 9.93184 | 7 | 44 |
| 17 | 9.71539 | 21 | 9.78363 | 28 | 0.21637 | 9.93177 | 8 | 43 |
| 18 | 9.71560 | 21 | 9.78391 | 28 | 0.21609 | 9.93169 | 8 | 42 |
| 19 | 9.71581 | 21 | 9.78419 | 29 | 0.21581 | 9.93161 | 7 | 41 |
| 20 | 9.71602 | 20 | 9.78448 | 28 | 0.21552 | 9.93154 | 8 | 40 |
| 21 | 9.71622 | 21 | 9.78476 | 29 | 0.21524 | 9.93146 | 8 | 39 |
| 22 | 9.71643 | 21 | 9.78505 | 28 | 0.21495 | 9.93138 | 7 | 38 |
| 23 | 9.71664 | 21 | 9.78533 | 29 | 0.21467 | 9.93131 | 8 | 37 |
| 24 | 9.71685 | 20 | 9.78562 | 28 | 0.21438 | 9.93123 | 8 | 36 |
| 25 | 9.71705 | 21 | 9.78590 | 28 | 0.21410 | 9.93115 | 7 | 35 |
| 26 | 9.71726 | 21 | 9.78618 | 29 | 0.21382 | 9.93108 | 8 | 34 |
| 27 | 9.71747 | 20 | 9.78647 | 28 | 0.21353 | 9.93100 | 8 | 33 |
| 28 | 9.71767 | 21 | 9.78675 | 29 | 0.21325 | 9.93092 | 8 | 32 |
| 29 | 9.71788 | 21 | 9.78704 | 28 | 0.21296 | 9.93084 | 8 | 31 |
| 30 | 9.71809 | 20 | 9.78732 | 28 | 0.21268 | 9.93077 | 8 | 30 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 29 | 28 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.0 | 0.9 |
| 3 | 1.5 | 1.4 |
| 4 | 1.9 | 1.9 |
| 5 | 2.4 | 2.3 |
| 6 | 2.9 | 2.8 |
| 7 | 3.4 | 3.3 |
| 8 | 3.9 | 3.7 |
| 9 | 4.4 | 4.2 |
| 10 | 4.8 | 4.7 |
| 20 | 9.7 | 9.3 |
| 30 | 14.5 | 14.0 |
| 40 | 19.3 | 18.7 |
| 50 | 24.2 | 23.3 |

| | 21 | 20 |
|---|---|---|
| 1 | 0.4 | 0.3 |
| 2 | 0.7 | 0.7 |
| 3 | 1.1 | 1.0 |
| 4 | 1.4 | 1.3 |
| 5 | 1.8 | 1.7 |
| 6 | 2.1 | 2.0 |
| 7 | 2.5 | 2.3 |
| 8 | 2.8 | 2.7 |
| 9 | 3.2 | 3.0 |
| 10 | 3.5 | 3.3 |
| 20 | 7.0 | 6.7 |
| 30 | 10.5 | 10.0 |
| 40 | 14.0 | 13.3 |
| 50 | 17.5 | 16.7 |

| | 7 | 8 |
|---|---|---|
| 10 | 1.2 | 1.3 |
| 20 | 2.3 | 2.7 |
| 30 | 3.5 | 4.0 |
| 40 | 4.7 | 5.3 |
| 50 | 5.8 | 6.7 |

PP.

# 58°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.71809** | | **9.78732** | | **0.21268** | **9.93077** | | **30** | |
| | | 20 | | 28 | | | 8 | | |
| 31 | 9.71829 | | 9.78760 | | 0.21240 | 9.93069 | | 29 | |
| | | 21 | | 29 | | | 8 | | |
| 32 | 9.71850 | | 9.78789 | | 0.21211 | 9.93061 | | 28 | |
| | | 20 | | 28 | | | 8 | | |
| 33 | 9.71870 | | 9.78817 | | 0.21183 | 9.93053 | | 27 | |
| | | 21 | | 28 | | | 7 | | |
| 34 | 9.71891 | | 9.78845 | | 0.21155 | 9.93046 | | 26 | |
| | | 20 | | 29 | | | 8 | | |
| **35** | **9.71911** | | **9.78874** | | **0.21126** | **9.93038** | | **25** | 29 28 |
| | | 21 | | 28 | | | 8 | | 1 0.5 0.5 |
| 36 | 9.71932 | | 9.78902 | | 0.21098 | 9.93030 | | 24 | 2 1.0 0.9 |
| | | 20 | | 28 | | | 8 | | 3 1.5 1.4 |
| 37 | 9.71952 | | 9.78930 | | 0.21070 | 9.93022 | | 23 | 4 1.9 1.9 |
| | | 21 | | 29 | | | 8 | | 5 2.4 2.3 |
| 38 | 9.71973 | | 9.78959 | | 0.21041 | 9.93014 | | 22 | 6 2.9 2.8 |
| | | 21 | | 28 | | | 7 | | 7 3.4 3.3 |
| 39 | 9.71994 | | 9.78987 | | 0.21013 | 9.93007 | | 21 | 8 3.9 3.7 |
| | | 20 | | 28 | | | 8 | | 9 4.4 4.2 |
| **40** | **9.72014** | | **9.79015** | | **0.20985** | **9.92999** | | **20** | 10 4.8 4.7 |
| | | 20 | | 28 | | | 8 | | 20 9.7 9.3 |
| 41 | 9.72034 | | 9.79043 | | 0.20957 | 9.92991 | | 19 | 30 14.5 14.0 |
| | | 21 | | 29 | | | 8 | | 40 19.3 18.7 |
| 42 | 9.72055 | | 9.79072 | | 0.20928 | 9.92983 | | 18 | 50 24.2 23.3 |
| | | 20 | | 28 | | | 7 | | |
| 43 | 9.72075 | | 9.79100 | | 0.20900 | 9.92976 | | 17 | |
| | | 21 | | 28 | | | 8 | | |
| 44 | 9.72096 | | 9.79128 | | 0.20872 | 9.92968 | | 16 | |
| | | 20 | | 28 | | | 8 | | 21 20 |
| **45** | **9.72116** | | **9.79156** | | **0.20844** | **9.92960** | | **15** | 1 0.4 0.3 |
| | | 21 | | 29 | | | 8 | | 2 0.7 0.7 |
| 46 | 9.72137 | | 9.79185 | | 0.20815 | 9.92952 | | 14 | 3 1.1 1.0 |
| | | 20 | | 28 | | | 8 | | 4 1.4 1.3 |
| 47 | 9.72157 | | 9.79213 | | 0.20787 | 9.92944 | | 13 | 5 1.8 1.7 |
| | | 20 | | 28 | | | 8 | | 6 2.1 2.0 |
| 48 | 9.72177 | | 9.79241 | | 0.20759 | 9.92936 | | 12 | 7 2.5 2.3 |
| | | 21 | | 28 | | | 7 | | 8 2.8 2.7 |
| 49 | 9.72198 | | 9.79269 | | 0.20731 | 9.92929 | | 11 | 9 3.2 3.0 |
| | | 20 | | 28 | | | 8 | | 10 3.5 3.3 |
| **50** | **9.72218** | | **9.79297** | | **0.20703** | **9.92921** | | **10** | 20 7.0 6.7 |
| | | 20 | | 29 | | | 8 | | 30 10.5 10.0 |
| 51 | 9.72238 | | 9.79326 | | 0.20674 | 9.92913 | | 9 | 40 14.0 13.3 |
| | | 21 | | 28 | | | 8 | | 50 17.5 16.7 |
| 52 | 9.72259 | | 9.79354 | | 0.20646 | 9.92905 | | 8 | |
| | | 20 | | 28 | | | 8 | | |
| 53 | 9.72279 | | 9.79382 | | 0.20618 | 9.92897 | | 7 | |
| | | 20 | | 28 | | | 8 | | |
| 54 | 9.72299 | | 9.79410 | | 0.20590 | 9.92889 | | 6 | 7 8 |
| | | 21 | | 28 | | | 8 | | 10 1.2 1.3 |
| **55** | **9.72320** | | **9.79438** | | **0.20562** | **9.92881** | | **5** | 20 2.3 2.7 |
| | | 20 | | 28 | | | 7 | | 30 3.5 4.0 |
| 56 | 9.72340 | | 9.79466 | | 0.20534 | 9.92874 | | 4 | 40 4.7 5.3 |
| | | 20 | | 29 | | | 8 | | 50 5.8 6.7 |
| 57 | 9.72360 | | 9.79495 | | 0.20505 | 9.92866 | | 3 | |
| | | 21 | | 28 | | | 8 | | |
| 58 | 9.72381 | | 9.79523 | | 0.20477 | 9.92858 | | 2 | |
| | | 20 | | 28 | | | 8 | | |
| 59 | 9.72401 | | 9.79551 | | 0.20449 | 9.92850 | | 1 | |
| | | 20 | | 28 | | | 8 | | |
| **60** | **9.72421** | | **9.79579** | | **0.20421** | **9.92842** | | **0** | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 32°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.72421 | 20 | 9.79579 | 28 | 0.20421 | 9.92842 | 8 | 60 |
| 1 | 9.72441 | 20 | 9.79607 | 28 | 0.20393 | 9.92834 | 8 | 59 |
| 2 | 9.72461 | 21 | 9.79635 | 28 | 0.20365 | 9.92826 | 8 | 58 |
| 3 | 9.72482 | 20 | 9.79663 | 28 | 0.20337 | 9.92818 | 8 | 57 |
| 4 | 9.72502 | 20 | 9.79691 | 28 | 0.20309 | 9.92810 | 7 | 56 |
| 5 | 9.72522 | 20 | 9.79719 | 28 | 0.20281 | 9.92803 | 8 | 55 |
| 6 | 9.72542 | 20 | 9.79747 | 29 | 0.20253 | 9.92795 | 8 | 54 |
| 7 | 9.72562 | 20 | 9.79776 | 28 | 0.20224 | 9.92787 | 8 | 53 |
| 8 | 9.72582 | 20 | 9.79804 | 28 | 0.20196 | 9.92779 | 8 | 52 |
| 9 | 9.72602 | 20 | 9.79832 | 28 | 0.20168 | 9.92771 | 8 | 51 |
| 10 | 9.72622 | 21 | 9.79860 | 28 | 0.20140 | 9.92763 | 8 | 50 |
| 11 | 9.72643 | 20 | 9.79888 | 28 | 0.20112 | 9.92755 | 8 | 49 |
| 12 | 9.72663 | 20 | 9.79916 | 28 | 0.20084 | 9.92747 | 8 | 48 |
| 13 | 9.72683 | 20 | 9.79944 | 28 | 0.20056 | 9.92739 | 8 | 47 |
| 14 | 9.72703 | 20 | 9.79972 | 28 | 0.20028 | 9.92731 | 8 | 46 |
| 15 | 9.72723 | 20 | 9.80000 | 28 | 0.20000 | 9.92723 | 8 | 45 |
| 16 | 9.72743 | 20 | 9.80028 | 28 | 0.19972 | 9.92715 | 8 | 44 |
| 17 | 9.72763 | 20 | 9.80056 | 28 | 0.19944 | 9.92707 | 8 | 43 |
| 18 | 9.72783 | 20 | 9.80084 | 28 | 0.19916 | 9.92699 | 8 | 42 |
| 19 | 9.72803 | 20 | 9.80112 | 28 | 0.19888 | 9.92691 | 8 | 41 |
| 20 | 9.72823 | 20 | 9.80140 | 28 | 0.19860 | 9.92683 | 8 | 40 |
| 21 | 9.72843 | 20 | 9.80168 | 27 | 0.19832 | 9.92675 | 8 | 39 |
| 22 | 9.72863 | 20 | 9.80195 | 28 | 0.19805 | 9.92667 | 8 | 38 |
| 23 | 9.72883 | 19 | 9.80223 | 28 | 0.19777 | 9.92659 | 8 | 37 |
| 24 | 9.72902 | 20 | 9.80251 | 28 | 0.19749 | 9.92651 | 8 | 36 |
| 25 | 9.72922 | 20 | 9.80279 | 28 | 0.19721 | 9.92643 | 8 | 35 |
| 26 | 9.72942 | 20 | 9.80307 | 28 | 0.19693 | 9.92635 | 8 | 34 |
| 27 | 9.72962 | 20 | 9.80335 | 28 | 0.19665 | 9.92627 | 8 | 33 |
| 28 | 9.72982 | 20 | 9.80363 | 28 | 0.19637 | 9.92619 | 8 | 32 |
| 29 | 9.73002 | 20 | 9.80391 | 28 | 0.19609 | 9.92611 | 8 | 31 |
| 30 | 9.73022 | 19 | 9.80419 | 28 | 0.19581 | 9.92603 | 8 | 30 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 29 | 28 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 1.0 | 0.9 |
| 3 | 1.5 | 1.4 |
| 4 | 1.9 | 1.9 |
| 5 | 2.4 | 2.3 |
| 6 | 2.9 | 2.8 |
| 7 | 3.4 | 3.3 |
| 8 | 3.9 | 3.7 |
| 9 | 4.4 | 4.2 |
| 10 | 4.8 | 4.7 |
| 20 | 9.7 | 9.3 |
| 30 | 14.5 | 14.0 |
| 40 | 19.3 | 18.7 |
| 50 | 24.2 | 23.3 |

| | 21 | 20 |
|---|---|---|
| 1 | 0.4 | 0.3 |
| 2 | 0.7 | 0.7 |
| 3 | 1.1 | 1.0 |
| 4 | 1.4 | 1.3 |
| 5 | 1.8 | 1.7 |
| 6 | 2.1 | 2.0 |
| 7 | 2.5 | 2.3 |
| 8 | 2.8 | 2.7 |
| 9 | 3.2 | 3.0 |
| 10 | 3.5 | 3.3 |
| 20 | 7.0 | 6.7 |
| 30 | 10.5 | 10.0 |
| 40 | 14.0 | 13.3 |
| 50 | 17.5 | 16.7 |

| | 7 | 8 |
|---|---|---|
| 10 | 1.2 | 1.3 |
| 20 | 2.3 | 2.7 |
| 30 | 3.5 | 4.0 |
| 40 | 4.7 | 5.3 |
| 50 | 5.8 | 6.7 |

PP.

# 57°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.73022** | 19 | **9.80419** | 28 | **0.19581** | **9.92603** | 8 | 30 | |
| 31 | 9.73041 | 20 | 9.80447 | 27 | 0.19553 | 9.92595 | 8 | 29 | |
| 32 | 9.73061 | 20 | 9.80474 | 28 | 0.19526 | 9.92587 | 8 | 28 | |
| 33 | 9.73081 | 20 | 9.80502 | 28 | 0.19498 | 9.92579 | 8 | 27 | |
| 34 | 9.73101 | 20 | 9.80530 | 28 | 0.19470 | 9.92571 | 8 | 26 | |
| **35** | **9.73121** | 19 | **9.80558** | 28 | **0.19442** | **9.92563** | 8 | 25 | |
| 36 | 9.73140 | 20 | 9.80586 | 28 | 0.19414 | 9.92555 | 9 | 24 | |
| 37 | 9.73160 | 20 | 9.80614 | 28 | 0.19386 | 9.92546 | 8 | 23 | |
| 38 | 9.73180 | 20 | 9.80642 | 27 | 0.19358 | 9.92538 | 8 | 22 | |
| 39 | 9.73200 | 19 | 9.80669 | 28 | 0.19331 | 9.92530 | 8 | 21 | |
| **40** | **9.73219** | 20 | **9.80697** | 28 | **0.19303** | **9.92522** | 8 | 20 | |
| 41 | 9.73239 | 20 | 9.80725 | 28 | 0.19275 | 9.92514 | 8 | 19 | |
| 42 | 9.73259 | 19 | 9.80753 | 28 | 0.19247 | 9.92506 | 8 | 18 | |
| 43 | 9.73278 | 20 | 9.80781 | 27 | 0.19219 | 9.92498 | 8 | 17 | |
| 44 | 9.73298 | 20 | 9.80808 | 28 | 0.19192 | 9.92490 | 8 | 16 | |
| **45** | **9.73318** | 19 | **9.80836** | 28 | **0.19164** | **9.92482** | 9 | 15 | |
| 46 | 9.73337 | 20 | 9.80864 | 28 | 0.19136 | 9.92473 | 8 | 14 | |
| 47 | 9.73357 | 20 | 9.80892 | 27 | 0.19108 | 9.92465 | 8 | 13 | |
| 48 | 9.73377 | 19 | 9.80919 | 28 | 0.19081 | 9.92457 | 8 | 12 | |
| 49 | 9.73396 | 20 | 9.80947 | 28 | 0.19053 | 9.92449 | 8 | 11 | |
| **50** | **9.73416** | 19 | **9.80975** | 28 | **0.19025** | **9.92441** | 8 | 10 | |
| 51 | 9.73435 | 20 | 9.81003 | 27 | 0.18997 | 9.92433 | 8 | 9 | |
| 52 | 9.73455 | 19 | 9.81030 | 28 | 0.18970 | 9.92425 | 9 | 8 | |
| 53 | 9.73474 | 20 | 9.81058 | 28 | 0.18942 | 9.92416 | 8 | 7 | |
| 54 | 9.73494 | 19 | 9.81086 | 27 | 0.18914 | 9.92408 | 8 | 6 | |
| **55** | **9.73513** | 20 | **9.81113** | 28 | **0.18887** | **9.92400** | 8 | 5 | |
| 56 | 9.73533 | 19 | 9.81141 | 28 | 0.18859 | 9.92392 | 8 | 4 | |
| 57 | 9.73552 | 20 | 9.81169 | 27 | 0.18831 | 9.92384 | 8 | 3 | |
| 58 | 9.73572 | 19 | 9.81196 | 28 | 0.18804 | 9.92376 | 9 | 2 | |
| 59 | 9.73591 | 20 | 9.81224 | 28 | 0.18776 | 9.92367 | 8 | 1 | |
| **60** | **9.73611** | | **9.81252** | | **0.18748** | **9.92359** | | 0 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| | 28 | 27 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.4 |
| 4 | 1.9 | 1.8 |
| 5 | 2.3 | 2.3 |
| 6 | 2.8 | 2.7 |
| 7 | 3.3 | 3.2 |
| 8 | 3.7 | 3.6 |
| 9 | 4.2 | 4.1 |
| 10 | 4.7 | 4.5 |
| 20 | 9.3 | 9.0 |
| 30 | 14.0 | 13.5 |
| 40 | 18.7 | 18.0 |
| 50 | 23.3 | 22.5 |

| | 20 | 19 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.7 | 0.6 |
| 3 | 1.0 | 1.0 |
| 4 | 1.3 | 1.3 |
| 5 | 1.7 | 1.6 |
| 6 | 2.0 | 1.9 |
| 7 | 2.3 | 2.2 |
| 8 | 2.7 | 2.5 |
| 9 | 3.0 | 2.9 |
| 10 | 3.3 | 3.2 |
| 20 | 6.7 | 6.3 |
| 30 | 10.0 | 9.5 |
| 40 | 13.3 | 12.7 |
| 50 | 16.7 | 15.8 |

| | 8 | 9 |
|---|---|---|
| 10 | 1.3 | 1.5 |
| 20 | 2.7 | 3.0 |
| 30 | 4.0 | 4.5 |
| 40 | 5.3 | 6.0 |
| 50 | 6.7 | 7.5 |

# 33°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **9.73611** | | **9.81252** | | **0.18748** | **9.92359** | | 60 | |
| | | 19 | | 27 | | | 8 | | |
| 1 | 9.73630 | | 9.81279 | | 0.18721 | 9.92351 | | 59 | |
| | | 20 | | 28 | | | 8 | | |
| 2 | 9.73650 | | 9.81307 | | 0.18693 | 9.92343 | | 58 | |
| | | 19 | | 28 | | | 8 | | |
| 3 | 9.73669 | | 9.81335 | | 0.18665 | 9.92335 | | 57 | |
| | | 20 | | 27 | | | 9 | | |
| 4 | 9.73689 | | 9.81362 | | 0.18638 | 9.92326 | | 56 | |
| | | 19 | | 28 | | | 8 | | |
| **5** | **9.73708** | | **9.81390** | | **0.18610** | **9.92318** | | 55 | |
| | | 19 | | 28 | | | 8 | | |
| 6 | 9.73727 | | 9.81418 | | 0.18582 | 9.92310 | | 54 | |
| | | 20 | | 27 | | | 8 | | |
| 7 | 9.73747 | | 9.81445 | | 0.18555 | 9.92302 | | 53 | |
| | | 19 | | 28 | | | 9 | | |
| 8 | 9.73766 | | 9.81473 | | 0.18527 | 9.92293 | | 52 | |
| | | 19 | | 27 | | | 8 | | |
| 9 | 9.73785 | | 9.81500 | | 0.18500 | 9.92285 | | 51 | |
| | | 20 | | 28 | | | 8 | | |
| **10** | **9.73805** | | **9.81528** | | **0.18472** | **9.92277** | | 50 | |
| | | 19 | | 28 | | | 8 | | |
| 11 | 9.73824 | | 9.81556 | | 0.18444 | 9.92269 | | 49 | |
| | | 19 | | 27 | | | 9 | | |
| 12 | 9.73843 | | 9.81583 | | 0.18417 | 9.92260 | | 48 | |
| | | 20 | | 28 | | | 8 | | |
| 13 | 9.73863 | | 9.81611 | | 0.18389 | 9.92252 | | 47 | |
| | | 19 | | 27 | | | 8 | | |
| 14 | 9.73882 | | 9.81638 | | 0.18362 | 9.92244 | | 46 | |
| | | 19 | | 28 | | | 9 | | |
| **15** | **9.73901** | | **9.81666** | | **0.18334** | **9.92235** | | 45 | |
| | | 20 | | 27 | | | 8 | | |
| 16 | 9.73921 | | 9.81693 | | 0.18307 | 9.92227 | | 44 | |
| | | 19 | | 28 | | | 8 | | |
| 17 | 9.73940 | | 9.81721 | | 0.18279 | 9.92219 | | 43 | |
| | | 19 | | 27 | | | 8 | | |
| 18 | 9.73959 | | 9.81748 | | 0.18252 | 9.92211 | | 42 | |
| | | 19 | | 28 | | | 9 | | |
| 19 | 9.73978 | | 9.81776 | | 0.18224 | 9.92202 | | 41 | |
| | | 19 | | 27 | | | 8 | | |
| **20** | **9.73997** | | **9.81803** | | **0.18197** | **9.92194** | | 40 | |
| | | 20 | | 28 | | | 8 | | |
| 21 | 9.74017 | | 9.81831 | | 0.18169 | 9.92186 | | 39 | |
| | | 19 | | 27 | | | 9 | | |
| 22 | 9.74036 | | 9.81858 | | 0.18142 | 9.92177 | | 38 | |
| | | 19 | | 28 | | | 8 | | |
| 23 | 9.74055 | | 9.81886 | | 0.18114 | 9.92169 | | 37 | |
| | | 19 | | 27 | | | 8 | | |
| 24 | 9.74074 | | 9.81913 | | 0.18087 | 9.92161 | | 36 | |
| | | 19 | | 28 | | | 9 | | |
| **25** | **9.74093** | | **9.81941** | | **0.18059** | **9.92152** | | 35 | |
| | | 20 | | 27 | | | 8 | | |
| 26 | 9.74113 | | 9.81968 | | 0.18032 | 9.92144 | | 34 | |
| | | 19 | | 28 | | | 8 | | |
| 27 | 9.74132 | | 9.81996 | | 0.18004 | 9.92136 | | 33 | |
| | | 19 | | 27 | | | 9 | | |
| 28 | 9.74151 | | 9.82023 | | 0.17977 | 9.92127 | | 32 | |
| | | 19 | | 28 | | | 8 | | |
| 29 | 9.74170 | | 9.82051 | | 0.17949 | 9.92119 | | 31 | |
| | | 19 | | 27 | | | 8 | | |
| **30** | **9.74189** | | **9.82078** | | **0.17922** | **9.92111** | | 30 | |
| | | 19 | | 28 | | | 9 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| | 28 | 27 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.4 |
| 4 | 1.9 | 1.8 |
| 5 | 2.3 | 2.3 |
| 6 | 2.8 | 2.7 |
| 7 | 3.3 | 3.2 |
| 8 | 3.7 | 3.6 |
| 9 | 4.2 | 4.1 |
| 10 | 4.7 | 4.5 |
| 20 | 9.3 | 9.0 |
| 30 | 14.0 | 13.5 |
| 40 | 18.7 | 18.0 |
| 50 | 23.3 | 22.5 |

| | 20 | 19 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.7 | 0.6 |
| 3 | 1.0 | 1.0 |
| 4 | 1.3 | 1.3 |
| 5 | 1.7 | 1.6 |
| 6 | 2.0 | 1.9 |
| 7 | 2.3 | 2.2 |
| 8 | 2.7 | 2.5 |
| 9 | 3.0 | 2.9 |
| 10 | 3.3 | 3.2 |
| 20 | 6.7 | 6.3 |
| 30 | 10.0 | 9.5 |
| 40 | 13.3 | 12.7 |
| 50 | 16.7 | 15.8 |

| | 8 | 9 |
|---|---|---|
| 10 | 1.3 | 1.5 |
| 20 | 2.7 | 3.0 |
| 30 | 4.0 | 4.5 |
| 40 | 5.3 | 6.0 |
| 50 | 6.7 | 7.5 |

# 56°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 30 | 9.74189 | | 9.82078 | | 0.17922 | 9.92111 | | 30 | |
| | | 19 | | 28 | | | 9 | | |
| 31 | 9.74208 | | 9.82106 | | C.17894 | 9.92102 | | 29 | |
| | | 19 | | 27 | | | 8 | | |
| 32 | 9.74227 | | 9.82133 | | 0.17867 | 9.92094 | | 28 | |
| | | 19 | | 28 | | | 8 | | |
| 33 | 9.74246 | | 9.82161 | | 0.17839 | 9.92086 | | 27 | |
| | | 19 | | 27 | | | 9 | | |
| 34 | 9.74265 | | 9.82188 | | 0.17812 | 9.92077 | | 26 | |
| | | 19 | | 27 | | | 8 | | |
| 35 | 9.74284 | | 9.82215 | | 0.17785 | 9.92069 | | 25 | 28 27 |
| | | 19 | | 28 | | | 9 | | 1 0.5 0.5 |
| 36 | 9.74303 | | 9.82243 | | 0.17757 | 9.92060 | | 24 | 2 0.9 0.9 |
| | | 19 | | 27 | | | 8 | | 3 1.4 1.4 |
| 37 | 9.74322 | | 9.82270 | | 0.17730 | 9.92052 | | 23 | 4 1.9 1.8 |
| | | 19 | | 28 | | | 8 | | 5 2.3 2.3 |
| 38 | 9.74341 | | 9.82298 | | 0.17702 | 9.92044 | | 22 | 6 2.8 2.7 |
| | | 19 | | 27 | | | 9 | | 7 3.3 3.2 |
| 39 | 9.74360 | | 9.82325 | | 0.17675 | 9.92035 | | 21 | 8 3.7 3.6 |
| | | 19 | | 27 | | | 8 | | 9 4.2 4.1 |
| 40 | 9.74379 | | 9.82352 | | 0.17648 | 9.92027 | | 20 | 10 4.7 4.5 |
| | | 19 | | 28 | | | 9 | | 20 9.3 9.0 |
| 41 | 9.74398 | | 9.82380 | | 0.17620 | 9.92018 | | 19 | 30 14.0 13.5 |
| | | 19 | | 27 | | | 8 | | 40 18.7 18.0 |
| 42 | 9.74417 | | 9.82407 | | 0.17593 | 9.92010 | | 18 | 50 23.3 22.5 |
| | | 19 | | 28 | | | 8 | | |
| 43 | 9.74436 | | 9.82435 | | 0.17565 | 9.92002 | | 17 | |
| | | 19 | | 27 | | | 9 | | |
| 44 | 9.74455 | | 9.82462 | | 0.17538 | 9.91993 | | 16 | 19 18 |
| | | 19 | | 27 | | | 8 | | 1 0.3 0.3 |
| 45 | 9.74474 | | 9.82489 | | 0.17511 | 9.91985 | | 15 | 2 0.6 0.6 |
| | | 19 | | 28 | | | 9 | | 3 1.0 0.9 |
| 46 | 9.74493 | | 9.82517 | | 0.17483 | 9.91976 | | 14 | 4 1.3 1.2 |
| | | 19 | | 27 | | | 8 | | 5 1.6 1.5 |
| 47 | 9.74512 | | 9.82544 | | 0.17456 | 9.91968 | | 13 | 6 1.9 1.8 |
| | | 19 | | 27 | | | 9 | | 7 2.2 2.1 |
| 48 | 9.74531 | | 9.82571 | | 0.17429 | 9.91959 | | 12 | 8 2.5 2.4 |
| | | 18 | | 28 | | | 8 | | 9 2.9 2.7 |
| 49 | 9.74549 | | 9.82599 | | 0.17401 | 9.91951 | | 11 | 10 3.2 3.0 |
| | | 19 | | 27 | | | 9 | | 20 6.3 6.0 |
| 50 | 9.74568 | | 9.82626 | | 0.17374 | 9.91942 | | 10 | 30 9.5 9.0 |
| | | 19 | | 27 | | | 8 | | 40 12.7 12.0 |
| 51 | 9.74587 | | 9.82653 | | 0.17347 | 9.91934 | | 9 | 50 15.8 15.0 |
| | | 19 | | 28 | | | 9 | | |
| 52 | 9.74606 | | 9.82681 | | 0.17319 | 9.91925 | | 8 | |
| | | 19 | | 27 | | | 8 | | |
| 53 | 9.74625 | | 9.82708 | | 0.17292 | 9.91917 | | 7 | |
| | | 19 | | 27 | | | 9 | | |
| 54 | 9.74644 | | 9.82735 | | 0.17265 | 9.91908 | | 6 | 8 9 |
| | | 18 | | 27 | | | 8 | | 10 1.3 1.5 |
| 55 | 9.74662 | | 9.82762 | | 0.17238 | 9.91900 | | 5 | 20 2.7 3.0 |
| | | 19 | | 28 | | | 9 | | 30 4.0 4.5 |
| 56 | 9.74681 | | 9.82790 | | 0.17210 | 9.91891 | | 4 | 40 5.3 6.0 |
| | | 19 | | 27 | | | 8 | | 50 6.7 7.5 |
| 57 | 9.74700 | | 9.82817 | | 0.17183 | 9.91883 | | 3 | |
| | | 19 | | 27 | | | 9 | | |
| 58 | 9.74719 | | 9.82844 | | 0.17156 | 9.91874 | | 2 | |
| | | 18 | | 27 | | | 8 | | |
| 59 | 9.74737 | | 9.82871 | | 0.17129 | 9.91866 | | 1 | |
| | | 19 | | 28 | | | 9 | | |
| 60 | 9.74756 | | 9.82899 | | 0.17101 | 9.91857 | | 0 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 34°

| Min | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **0** | **9.74756** | | **9.82899** | | **0.17101** | **9.91857** | | **60** |
| | | 19 | | 27 | | | 8 | |
| 1 | 9.74775 | | 9.82926 | | 0.17074 | 9.91849 | | 59 |
| 2 | 9.74794 | 19 | 9.82953 | 27 | 0.17047 | 9.91840 | 9 | 58 |
| 3 | 9.74812 | 18 | 9.82980 | 27 | 0.17020 | 9.91832 | 8 | 57 |
| 4 | 9.74831 | 19 | 9.83008 | 28 | 0.16992 | 9.91823 | 9 | 56 |
| | | 19 | | 27 | | | 8 | |
| **5** | **9.74850** | | **9.83035** | | **0.16965** | **9.91815** | | **55** |
| | | 18 | | 27 | | | 9 | |
| 6 | 9.74868 | | 9.83062 | | 0.16938 | 9.91806 | | 54 |
| 7 | 9.74887 | 19 | 9.83089 | 27 | 0.16911 | 9.91798 | 8 | 53 |
| 8 | 9.74906 | 19 | 9.83117 | 28 | 0.16883 | 9.91789 | 9 | 52 |
| 9 | 9.74924 | 18 | 9.83144 | 27 | 0.16856 | 9.91781 | 8 | 51 |
| | | 19 | | 27 | | | 9 | |
| **10** | **9.74943** | | **9.83171** | | **0.16829** | **9.91772** | | **50** |
| | | 18 | | 27 | | | 9 | |
| 11 | 9.74961 | | 9.83198 | | 0.16802 | 9.91763 | | 49 |
| 12 | 9.74980 | 19 | 9.83225 | 27 | 0.16775 | 9.91755 | 8 | 48 |
| 13 | 9.74999 | 19 | 9.83252 | 27 | 0.16748 | 9.91746 | 9 | 47 |
| 14 | 9.75017 | 18 | 9.83280 | 28 | 0.16720 | 9.91738 | 8 | 46 |
| | | 19 | | 27 | | | 9 | |
| **15** | **9.75036** | | **9.83307** | | **0.16693** | **9.91729** | | **45** |
| | | 18 | | 27 | | | 9 | |
| 16 | 9.75054 | | 9.83334 | | 0.16666 | 9.91720 | | 44 |
| 17 | 9.75073 | 19 | 9.83361 | 27 | 0.16639 | 9.91712 | 8 | 43 |
| 18 | 9.75091 | 18 | 9.83388 | 27 | 0.16612 | 9.91703 | 9 | 42 |
| 19 | 9.75110 | 19 | 9.83415 | 27 | 0.16585 | 9.91695 | 8 | 41 |
| | | 18 | | 27 | | | 9 | |
| **20** | **9.75128** | | **9.83442** | | **0.16558** | **9.91686** | | **40** |
| | | 19 | | 28 | | | 9 | |
| 21 | 9.75147 | | 9.83470 | | 0.16530 | 9.91677 | | 39 |
| 22 | 9.75165 | 18 | 9.83497 | 27 | 0.16503 | 9.91669 | 8 | 38 |
| 23 | 9.75184 | 19 | 9.83524 | 27 | 0.16476 | 9.91660 | 9 | 37 |
| 24 | 9.75202 | 18 | 9.83551 | 27 | 0.16449 | 9.91651 | 9 | 36 |
| | | 19 | | 27 | | | 8 | |
| **25** | **9.75221** | | **9.83578** | | **0.16422** | **9.91643** | | **35** |
| | | 18 | | 27 | | | 9 | |
| 26 | 9.75239 | | 9.83605 | | 0.16395 | 9.91634 | | 34 |
| 27 | 9.75258 | 19 | 9.83632 | 27 | 0.16368 | 9.91625 | 9 | 33 |
| 28 | 9.75276 | 18 | 9.83659 | 27 | 0.16341 | 9.91617 | 8 | 32 |
| 29 | 9.75294 | 18 | 9.83686 | 27 | 0.16314 | 9.91608 | 9 | 31 |
| | | 19 | | 27 | | | 9 | |
| **30** | **9.75313** | | **9.83713** | | **0.16287** | **9.91599** | | **30** |
| | | 18 | | 27 | | | 8 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 28 | 27 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.4 |
| 4 | 1.9 | 1.8 |
| 5 | 2.3 | 2.3 |
| 6 | 2.8 | 2.7 |
| 7 | 3.3 | 3.2 |
| 8 | 3.7 | 3.6 |
| 9 | 4.2 | 4.1 |
| 10 | 4.7 | 4.5 |
| 20 | 9.3 | 9.0 |
| 30 | 14.0 | 13.5 |
| 40 | 18.7 | 18.0 |
| 50 | 23.3 | 22.5 |

| | 19 | 18 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.6 | 0.6 |
| 3 | 1.0 | 0.9 |
| 4 | 1.3 | 1.2 |
| 5 | 1.6 | 1.5 |
| 6 | 1.9 | 1.8 |
| 7 | 2.2 | 2.1 |
| 8 | 2.5 | 2.4 |
| 9 | 2.9 | 2.7 |
| 10 | 3.2 | 3.0 |
| 20 | 6.3 | 6.0 |
| 30 | 9.5 | 9.0 |
| 40 | 12.7 | 12.0 |
| 50 | 15.8 | 15.0 |

| | 8 | 9 |
|---|---|---|
| 10 | 1.3 | 1.5 |
| 20 | 2.7 | 3.0 |
| 30 | 4.0 | 4.5 |
| 40 | 5 3 | 6.0 |
| 50 | 6.7 | 7.5 |

PP.

# 55°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.75313** | | **9.83713** | | **0.16287** | **9.91599** | | 30 |
| | | 18 | | 27 | | | 8 | |
| 31 | 9.75331 | | 9.83740 | | 0.16260 | 9.91591 | | 29 |
| | | 19 | | 28 | | | 9 | |
| 32 | 9.75350 | | 9.83768 | | 0.16232 | 9.91582 | | 28 |
| | | 18 | | 27 | | | 9 | |
| 33 | 9.75368 | | 9.83795 | | 0.16205 | 9.91573 | | 27 |
| | | 18 | | 27 | | | 8 | |
| 34 | 9.75386 | | 9.83822 | | 0.16178 | 9.91565 | | 26 |
| | | 19 | | 27 | | | 9 | |
| **35** | **9.75405** | | **9.83849** | | **0.16151** | **9.91556** | | 25 |
| | | 18 | | 27 | | | 9 | |
| 36 | 9.75423 | | 9.83876 | | 0.16124 | 9.91547 | | 24 |
| | | 18 | | 27 | | | 9 | |
| 37 | 9.75441 | | 9.83903 | | 0.16097 | 9.91538 | | 23 |
| | | 18 | | 27 | | | 8 | |
| 38 | 9.75459 | | 9.83930 | | 0.16070 | 9.91530 | | 22 |
| | | 19 | | 27 | | | 9 | |
| 39 | 9.75478 | | 9.83957 | | 0.16043 | 9.91521 | | 21 |
| | | 18 | | 27 | | | 9 | |
| **40** | **9.75496** | | **9.83984** | | **0.16016** | **9.91512** | | 20 |
| | | 18 | | 27 | | | 8 | |
| 41 | 9.75514 | | 9.84011 | | 0.15989 | 9.91504 | | 19 |
| | | 19 | | 27 | | | 9 | |
| 42 | 9.75533 | | 9.84038 | | 0.15962 | 9.91495 | | 18 |
| | | 18 | | 27 | | | 9 | |
| 43 | 9.75551 | | 9.84065 | | 0.15935 | 9.91486 | | 17 |
| | | 18 | | 27 | | | 9 | |
| 44 | 9.75569 | | 9.84092 | | 0.15908 | 9.91477 | | 16 |
| | | 18 | | 27 | | | 8 | |
| **45** | **9.75587** | | **9.84119** | | **0.15881** | **9.91469** | | 15 |
| | | 18 | | 27 | | | 9 | |
| 46 | 9.75605 | | 9.84146 | | 0.15854 | 9.91460 | | 14 |
| | | 19 | | 27 | | | 9 | |
| 47 | 9.75624 | | 9.84173 | | 0.15827 | 9.91451 | | 13 |
| | | 18 | | 27 | | | 9 | |
| 48 | 9.75642 | | 9.84200 | | 0.15800 | 9.91442 | | 12 |
| | | 18 | | 27 | | | 9 | |
| 49 | 9.75660 | | 9.84227 | | 0.15773 | 9.91433 | | 11 |
| | | 18 | | 27 | | | 8 | |
| **50** | **9.75678** | | **9.84254** | | **0.15746** | **9.91425** | | 10 |
| | | 18 | | 26 | | | 9 | |
| 51 | 9.75696 | | 9.84280 | | 0.15720 | 9.91416 | | 9 |
| | | 18 | | 27 | | | 9 | |
| 52 | 9.75714 | | 9.84307 | | 0.15693 | 9.91407 | | 8 |
| | | 19 | | 27 | | | 9 | |
| 53 | 9.75733 | | 9.84334 | | 0.15666 | 9.91398 | | 7 |
| | | 18 | | 27 | | | 9 | |
| 54 | 9.75751 | | 9.84361 | | 0.15639 | 9.91389 | | 6 |
| | | 18 | | 27 | | | 8 | |
| **55** | **9.75769** | | **9.84388** | | **0.15612** | **9.91381** | | 5 |
| | | 18 | | 27 | | | 9 | |
| 56 | 9.75787 | | 9.84415 | | 0.15585 | 9.91372 | | 4 |
| | | 18 | | 27 | | | 9 | |
| 57 | 9.75805 | | 9.84442 | | 0.15558 | 9.91363 | | 3 |
| | | 18 | | 27 | | | 9 | |
| 58 | 9.75823 | | 9.84469 | | 0.15531 | 9.91354 | | 2 |
| | | 18 | | 27 | | | 9 | |
| 59 | 9.75841 | | 9.84496 | | 0.15504 | 9.91345 | | 1 |
| | | 18 | | 27 | | | 9 | |
| **60** | **9.75859** | | **9.84523** | | **0.15477** | **9.91336** | | 0 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP.
Seconds

| | 28 | 27 |
|---|---|---|
| 1 | 0.5 | 0.5 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.4 |
| 4 | 1.9 | 1.8 |
| 5 | 2.3 | 2.3 |
| 6 | 2.8 | 2.7 |
| 7 | 3.3 | 3.2 |
| 8 | 3.7 | 3.6 |
| 9 | 4.2 | 4.1 |
| 10 | 4.7 | 4.5 |
| 20 | 9.3 | 9.0 |
| 30 | 14.0 | 13.5 |
| 40 | 18.7 | 18.0 |
| 50 | 23.3 | 22.5 |

| | 26 |
|---|---|
| 1 | 0.4 |
| 2 | 0.9 |
| 3 | 1.3 |
| 4 | 1.7 |
| 5 | 2.2 |
| 6 | 2.6 |
| 7 | 3.0 |
| 8 | 3.5 |
| 9 | 3.9 |
| 10 | 4.3 |
| 20 | 8.7 |
| 30 | 13.0 |
| 40 | 17.3 |
| 50 | 21.7 |

| | 19 | 18 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.6 | 0.6 |
| 3 | 1.0 | 0.9 |
| 4 | 1.3 | 1.2 |
| 5 | 1.6 | 1.5 |
| 6 | 1.9 | 1.8 |
| 7 | 2.2 | 2.1 |
| 8 | 2.5 | 2.4 |
| 9 | 2.9 | 2.7 |
| 10 | 3.2 | 3.0 |
| 20 | 6.3 | 6.0 |
| 30 | 9.5 | 9.0 |
| 40 | 12.7 | 12.0 |
| 50 | 15.8 | 15.0 |

| | 8 | 9 |
|---|---|---|
| 10 | 1.3 | 1.5 |
| 20 | 2.7 | 3.0 |
| 30 | 4.0 | 4.5 |
| 40 | 5.3 | 6.0 |
| 50 | 6.7 | 7.5 |

PP.

# 35°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.75859 | | 9.84523 | | 0.15477 | 9.91336 | | 60 |
| | | 18 | | 27 | | | 8 | |
| 1 | 9.75877 | | 9.84550 | | 0.15450 | 9.91328 | | 59 |
| | | 18 | | 26 | | | 9 | |
| 2 | 9.75895 | | 9.84576 | | 0.15424 | 9.91319 | | 58 |
| | | 18 | | 27 | | | 9 | |
| 3 | 9.75913 | | 9.84603 | | 0.15397 | 9.91310 | | 57 |
| | | 18 | | 27 | | | 9 | |
| 4 | 9.75931 | | 9.84630 | | 0.15370 | 9.91301 | | 56 |
| | | 18 | | 27 | | | 9 | |
| 5 | 9.75949 | | 9.84657 | | 0.15343 | 9.91292 | | 55 |
| | | 18 | | 27 | | | 9 | |
| 6 | 9.75967 | | 9.84684 | | 0.15316 | 9.91283 | | 54 |
| | | 18 | | 27 | | | 9 | |
| 7 | 9.75985 | | 9.84711 | | 0.15289 | 9.91274 | | 53 |
| | | 18 | | 27 | | | 8 | |
| 8 | 9.76003 | | 9.84738 | | 0.15262 | 9.91266 | | 52 |
| | | 18 | | 26 | | | 9 | |
| 9 | 9.76021 | | 9.84764 | | 0.15236 | 9.91257 | | 51 |
| | | 18 | | 27 | | | 9 | |
| 10 | 9.76039 | | 9.84791 | | 0.15209 | 9.91248 | | 50 |
| | | 18 | | 27 | | | 9 | |
| 11 | 9.76057 | | 9.84818 | | 0.15182 | 9.91239 | | 49 |
| | | 18 | | 27 | | | 9 | |
| 12 | 9.76075 | | 9.84845 | | 0.15155 | 9.91230 | | 48 |
| | | 18 | | 27 | | | 9 | |
| 13 | 9.76093 | | 9.84872 | | 0.15128 | 9.91221 | | 47 |
| | | 18 | | 27 | | | 9 | |
| 14 | 9.76111 | | 9.84899 | | 0.15101 | 9.91212 | | 46 |
| | | 18 | | 26 | | | 9 | |
| 15 | 9.76129 | | 9.84925 | | 0.15075 | 9.91203 | | 45 |
| | | 17 | | 27 | | | 9 | |
| 16 | 9.76146 | | 9.84952 | | 0.15048 | 9.91194 | | 44 |
| | | 18 | | 27 | | | 9 | |
| 17 | 9.76164 | | 9.84979 | | 0.15021 | 9.91185 | | 43 |
| | | 18 | | 27 | | | 9 | |
| 18 | 9.76182 | | 9.85006 | | 0.14994 | 9.91176 | | 42 |
| | | 18 | | 27 | | | 9 | |
| 19 | 9.76200 | | 9.85033 | | 0.14967 | 9.91167 | | 41 |
| | | 18 | | 26 | | | 9 | |
| 20 | 9.76218 | | 9.85059 | | 0.14941 | 9.91158 | | 40 |
| | | 18 | | 27 | | | 9 | |
| 21 | 9.76236 | | 9.85086 | | 0.14914 | 9.91149 | | 39 |
| | | 17 | | 27 | | | 8 | |
| 22 | 9.76253 | | 9.85113 | | 0.14887 | 9.91141 | | 38 |
| | | 18 | | 27 | | | 9 | |
| 23 | 9.76271 | | 9.85140 | | 0.14860 | 9.91132 | | 37 |
| | | 18 | | 26 | | | 9 | |
| 24 | 9.76289 | | 9.85166 | | 0.14834 | 9.91123 | | 36 |
| | | 18 | | 27 | | | 9 | |
| 25 | 9.76307 | | 9.85193 | | 0.14807 | 9.91114 | | 35 |
| | | 17 | | 27 | | | 9 | |
| 26 | 9.76324 | | 9.85220 | | 0.14780 | 9.91105 | | 34 |
| | | 18 | | 27 | | | 9 | |
| 27 | 9.76342 | | 9.85247 | | 0.14753 | 9.91096 | | 33 |
| | | 18 | | 26 | | | 9 | |
| 28 | 9.76360 | | 9.85273 | | 0.14727 | 9.91087 | | 32 |
| | | 18 | | 27 | | | 9 | |
| 29 | 9.76378 | | 9.85300 | | 0.14700 | 9.91078 | | 31 |
| | | 17 | | 27 | | | 9 | |
| 30 | 9.76395 | | 9.85327 | | 0.14673 | 9.91069 | | 30 |
| | | 18 | | 27 | | | 9 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 27 | 26 |
|---|---|---|
| 1 | 0.5 | 0.4 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.3 |
| 4 | 1.8 | 1.7 |
| 5 | 2.3 | 2.2 |
| 6 | 2.7 | 2.6 |
| 7 | 3.2 | 3.0 |
| 8 | 3.6 | 3.5 |
| 9 | 4.1 | 3.9 |
| 10 | 4.5 | 4.3 |
| 20 | 9.0 | 8.7 |
| 30 | 13.5 | 13.0 |
| 40 | 18.0 | 17.3 |
| 50 | 22.5 | 21.7 |

| | 18 | 17 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.6 | 0.6 |
| 3 | 0.9 | 0.9 |
| 4 | 1.2 | 1.1 |
| 5 | 1.5 | 1.4 |
| 6 | 1.8 | 1.7 |
| 7 | 2.1 | 2.0 |
| 8 | 2.4 | 2.3 |
| 9 | 2.7 | 2.6 |
| 10 | 3.0 | 2.8 |
| 20 | 6.0 | 5.7 |
| 30 | 9.0 | 8.5 |
| 40 | 12.0 | 11.3 |
| 50 | 15.0 | 14.2 |

| | 8 | 9 |
|---|---|---|
| 10 | 1.3 | 1.5 |
| 20 | 2.7 | 3.0 |
| 30 | 4.0 | 4.5 |
| 40 | 5.3 | 6.0 |
| 50 | 6.7 | 7.5 |

PP.

# 54°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.76395** | 18 | **9.85327** | 27 | **0.14673** | **9.91069** | 9 | **30** |
| 31 | 9.76413 | 18 | 9.85354 | 26 | 0.14646 | 9.91060 | 9 | 29 |
| 32 | 9.76431 | 17 | 9.85380 | 27 | 0.14620 | 9.91051 | 9 | 28 |
| 33 | 9.76448 | 18 | 9.85407 | 27 | 0.14593 | 9.91042 | 9 | 27 |
| 34 | 9.76466 | 18 | 9.85434 | 26 | 0.14566 | 9.91033 | 10 | 26 |
| **35** | **9.76484** | 17 | **9.85460** | 27 | **0.14540** | **9.91023** | 9 | **25** |
| 36 | 9.76501 | 18 | 9.85487 | 27 | 0.14513 | 9.91014 | 9 | 24 |
| 37 | 9.76519 | 18 | 9.85514 | 26 | 0.14486 | 9.91005 | 9 | 23 |
| 38 | 9.76537 | 17 | 9.85540 | 27 | 0.14460 | 9.90996 | 9 | 22 |
| 39 | 9.76554 | 18 | 9.85567 | 27 | 0.14433 | 9.90987 | 9 | 21 |
| **40** | **9.76572** | 18 | **9.85594** | 26 | **0.14406** | **9.90978** | 9 | **20** |
| 41 | 9.76590 | 17 | 9.85620 | 27 | 0.14380 | 9.90969 | 9 | 19 |
| 42 | 9.76607 | 18 | 9.85647 | 27 | 0.14353 | 9.90960 | 9 | 18 |
| 43 | 9.76625 | 17 | 9.85674 | 26 | 0.14326 | 9.90951 | 9 | 17 |
| 44 | 9.76642 | 18 | 9.85700 | 27 | 0.14300 | 9.90942 | 9 | 16 |
| **45** | **9.76660** | 17 | **9.85727** | 27 | **0.14273** | **9.90933** | 9 | **15** |
| 46 | 9.76677 | 18 | 9.85754 | 26 | 0.14246 | 9.90924 | 9 | 14 |
| 47 | 9.76695 | 17 | 9.85780 | 27 | 0.14220 | 9.90915 | 9 | 13 |
| 48 | 9.76712 | 18 | 9.85807 | 27 | 0.14193 | 9.90906 | 10 | 12 |
| 49 | 9.76730 | 17 | 9.85834 | 26 | 0.14166 | 9.90896 | 9 | 11 |
| **50** | **9.76747** | 18 | **9.85860** | 27 | **0.14140** | **9.90887** | 9 | **10** |
| 51 | 9.76765 | 17 | 9.85887 | 26 | 0.14113 | 9.90878 | 9 | 9 |
| 52 | 9.76782 | 18 | 9.85913 | 27 | 0.14087 | 9.90869 | 9 | 8 |
| 53 | 9.76800 | 17 | 9.85940 | 27 | 0.14060 | 9.90860 | 9 | 7 |
| 54 | 9.76817 | 18 | 9.85967 | 26 | 0.14033 | 9.90851 | 9 | 6 |
| **55** | **9.76835** | 17 | **9.85993** | 27 | **0.14007** | **9.90842** | 10 | **5** |
| 56 | 9.76852 | 18 | 9.86020 | 26 | 0.13980 | 9.90832 | 9 | 4 |
| 57 | 9.76870 | 17 | 9.86046 | 27 | 0.13954 | 9.90823 | 9 | 3 |
| 58 | 9.76887 | 17 | 9.86073 | 27 | 0.13927 | 9.90814 | 9 | 2 |
| 59 | 9.76904 | 18 | 9.86100 | 26 | 0.13900 | 9.90805 | 9 | 1 |
| **60** | **9.76922** | | **9.86126** | | **0.13874** | **9.90796** | | **0** |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 27 | 26 |
|---|---|---|
| 1 | 0.5 | 0.4 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.3 |
| 4 | 1.8 | 1.7 |
| 5 | 2.3 | 2.2 |
| 6 | 2.7 | 2.6 |
| 7 | 3.2 | 3.0 |
| 8 | 3.6 | 3.5 |
| 9 | 4.1 | 3.9 |
| 10 | 4.5 | 4.3 |
| 20 | 9.0 | 8.7 |
| 30 | 13.5 | 13.0 |
| 40 | 18.0 | 17.3 |
| 50 | 22.5 | 21.7 |

| | 18 | 17 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.6 | 0.6 |
| 3 | 0.9 | 0.9 |
| 4 | 1.2 | 1.1 |
| 5 | 1.5 | 1.4 |
| 6 | 1.8 | 1.7 |
| 7 | 2.1 | 2.0 |
| 8 | 2.4 | 2.3 |
| 9 | 2.7 | 2.6 |
| 10 | 3.0 | 2.8 |
| 20 | 6.0 | 5.7 |
| 30 | 9.0 | 8.5 |
| 40 | 12.0 | 11.3 |
| 50 | 15.0 | 14.2 |

| | 9 | 10 |
|---|---|---|
| 10 | 1.5 | 1.7 |
| 20 | 3.0 | 3.3 |
| 30 | 4.5 | 5.0 |
| 40 | 6.0 | 6.7 |
| 50 | 7.5 | 8.3 |

PP.

# 36°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **0** | **9.76922** | | **9.86126** | | **0.13874** | **9.90796** | | 60 |
| | | 17 | | 27 | | | 9 | |
| 1 | 9.76939 | | 9.86153 | | 0.13847 | 9.90787 | | 59 |
| 2 | 9.76957 | 18 | 9.86179 | 26 | 0.13821 | 9.90777 | 10 | 58 |
| 3 | 9.76974 | 17 | 9.86206 | 27 | 0.13794 | 9.90768 | 9 | 57 |
| 4 | 9.76991 | 17 | 9.86232 | 26 | 0.13768 | 9.90759 | 9 | 56 |
| | | 18 | | 27 | | | 9 | |
| **5** | **9.77009** | | **9.86259** | | **0.13741** | **9.90750** | | 55 |
| | | 17 | | 26 | | | 9 | |
| 6 | 9.77026 | | 9.86285 | | 0.13715 | 9.90741 | | 54 |
| 7 | 9.77043 | 17 | 9.86312 | 27 | 0.13688 | 9.90731 | 10 | 53 |
| 8 | 9.77061 | 18 | 9.86338 | 26 | 0.13662 | 9.90722 | 9 | 52 |
| 9 | 9.77078 | 17 | 9.86365 | 27 | 0.13635 | 9.90713 | 9 | 51 |
| | | 17 | | 27 | | | 9 | |
| **10** | **9.77095** | | **9.86392** | | **0.13608** | **9.90704** | | 50 |
| | | 17 | | 26 | | | 10 | |
| 11 | 9.77112 | | 9.86418 | | 0.13582 | 9.90694 | | 49 |
| 12 | 9.77130 | 18 | 9.86445 | 27 | 0.13555 | 9.90685 | 9 | 48 |
| 13 | 9.77147 | 17 | 9.86471 | 26 | 0.13529 | 9.90676 | 9 | 47 |
| 14 | 9.77164 | 17 | 9.86498 | 27 | 0.13502 | 9.90667 | 9 | 46 |
| | | 17 | | 26 | | | 10 | |
| **15** | **9.77181** | | **9.86524** | | **0.13476** | **9.90657** | | 45 |
| | | 18 | | 27 | | | 9 | |
| 16 | 9.77199 | | 9.86551 | | 0.13449 | 9.90648 | | 44 |
| 17 | 9.77216 | 17 | 9.86577 | 26 | 0.13423 | 9.90639 | 9 | 43 |
| 18 | 9.77233 | 17 | 9.86603 | 26 | 0.13397 | 9.90630 | 9 | 42 |
| 19 | 9.77250 | 17 | 9.86630 | 27 | 0.13370 | 9.90620 | 10 | 41 |
| | | 18 | | 26 | | | 9 | |
| **20** | **9.77268** | | **9.86656** | | **0.13344** | **9.90611** | | 40 |
| | | 17 | | 27 | | | 9 | |
| 21 | 9.77285 | | 9.86683 | | 0.13317 | 9.90602 | | 39 |
| 22 | 9.77302 | 17 | 9.86709 | 26 | 0.13291 | 9.90592 | 10 | 38 |
| 23 | 9.77319 | 17 | 9.86736 | 27 | 0.13264 | 9.90583 | 9 | 37 |
| 24 | 9.77336 | 17 | 9.86762 | 26 | 0.13238 | 9.90574 | 9 | 36 |
| | | 17 | | 27 | | | 9 | |
| **25** | **9.77353** | | **9.86789** | | **0.13211** | **9.90565** | | 35 |
| | | 17 | | 26 | | | 10 | |
| 26 | 9.77370 | | 9.86815 | | 0.13185 | 9.90555 | | 34 |
| 27 | 9.77387 | 17 | 9.86842 | 27 | 0.13158 | 9.90546 | 9 | 33 |
| 28 | 9.77405 | 18 | 9.86868 | 26 | 0.13132 | 9.90537 | 9 | 32 |
| 29 | 9.77422 | 17 | 9.86894 | 26 | 0.13106 | 9.90527 | 10 | 31 |
| | | 17 | | 27 | | | 9 | |
| **30** | **9.77439** | | **9.86921** | | **0.13079** | **9.90518** | | 30 |
| | | 17 | | 26 | | | 9 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 27 | 26 |
|---|---|---|
| 1 | 0.5 | 0.4 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.3 |
| 4 | 1.8 | 1.7 |
| 5 | 2.3 | 2.2 |
| 6 | 2.7 | 2.6 |
| 7 | 3.2 | 3.0 |
| 8 | 3.6 | 3.5 |
| 9 | 4.1 | 3.9 |
| 10 | 4.5 | 4.3 |
| 20 | 9.0 | 8.7 |
| 30 | 13.5 | 13.0 |
| 40 | 18.0 | 17.3 |
| 50 | 22.5 | 21.7 |

| | 18 | 17 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.6 | 0.6 |
| 3 | 0.9 | 0.9 |
| 4 | 1.2 | 1.1 |
| 5 | 1.5 | 1.4 |
| 6 | 1.8 | 1.7 |
| 7 | 2.1 | 2.0 |
| 8 | 2.4 | 2.3 |
| 9 | 2.7 | 2.6 |
| 10 | 3.0 | 2.8 |
| 20 | 6.0 | 5.7 |
| 30 | 9.0 | 8.5 |
| 40 | 12.0 | 11.3 |
| 50 | 15.0 | 14.2 |

| | 9 | 10 |
|---|---|---|
| 10 | 1.5 | 1.7 |
| 20 | 3.0 | 3.3 |
| 30 | 4.5 | 5.0 |
| 40 | 6.0 | 6.7 |
| 50 | 7.5 | 8.3 |

PP.

# 53°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 30 | 9.77439 | 17 | 9.86921 | 26 | 0.13079 | 9.90518 | 9 | 30 |
| 31 | 9.77456 | 17 | 9.86947 | 27 | 0.13053 | 9.90509 | 10 | 29 |
| 32 | 9.77473 | 17 | 9.86974 | 26 | 0.13026 | 9.90499 | 9 | 28 |
| 33 | 9.77490 | 17 | 9.87000 | 27 | 0.13000 | 9.90490 | 10 | 27 |
| 34 | 9.77507 | 17 | 9.87027 | 26 | 0.12973 | 9.90480 | 9 | 26 |
| 35 | 9.77524 | 17 | 9.87053 | 26 | 0.12947 | 9.90471 | 9 | 25 |
| 36 | 9.77541 | 17 | 9.87079 | 27 | 0.12921 | 9.90462 | 10 | 24 |
| 37 | 9.77558 | 17 | 9.87106 | 26 | 0.12894 | 9.90452 | 9 | 23 |
| 38 | 9.77575 | 17 | 9.87132 | 26 | 0.12868 | 9.90443 | 9 | 22 |
| 39 | 9.77592 | 17 | 9.87158 | 27 | 0.12842 | 9.90434 | 10 | 21 |
| 40 | 9.77609 | 17 | 9.87185 | 26 | 0.12815 | 9.90424 | 9 | 20 |
| 41 | 9.77626 | 17 | 9.87211 | 27 | 0.12789 | 9.90415 | 10 | 19 |
| 42 | 9.77643 | 17 | 9.87238 | 26 | 0.12762 | 9.90405 | 9 | 18 |
| 43 | 9.77660 | 17 | 9.87264 | 26 | 0.12736 | 9.90396 | 10 | 17 |
| 44 | 9.77677 | 17 | 9.87290 | 27 | 0.12710 | 9.90386 | 9 | 16 |
| 45 | 9.77694 | 17 | 9.87317 | 26 | 0.12683 | 9.90377 | 9 | 15 |
| 46 | 9.77711 | 17 | 9.87343 | 26 | 0.12657 | 9.90368 | 10 | 14 |
| 47 | 9.77728 | 16 | 9.87369 | 27 | 0.12631 | 9.90358 | 9 | 13 |
| 48 | 9.77744 | 17 | 9.87396 | 26 | 0.12604 | 9.90349 | 10 | 12 |
| 49 | 9.77761 | 17 | 9.87422 | 26 | 0.12578 | 9.90339 | 9 | 11 |
| 50 | 9.77778 | 17 | 9.87448 | 27 | 0.12552 | 9.90330 | 10 | 10 |
| 51 | 9.77795 | 17 | 9.87475 | 26 | 0.12525 | 9.90320 | 9 | 9 |
| 52 | 9.77812 | 17 | 9.87501 | 26 | 0.12499 | 9.90311 | 10 | 8 |
| 53 | 9.77829 | 17 | 9.87527 | 27 | 0.12473 | 9.90301 | 9 | 7 |
| 54 | 9.77846 | 16 | 9.87554 | 26 | 0.12446 | 9.90292 | 10 | 6 |
| 55 | 9.77862 | 17 | 9.87580 | 26 | 0.12420 | 9.90282 | 9 | 5 |
| 56 | 9.77879 | 17 | 9.87606 | 27 | 0.12394 | 9.90273 | 10 | 4 |
| 57 | 9.77896 | 17 | 9.87633 | 26 | 0.12367 | 9.90263 | 9 | 3 |
| 58 | 9.77913 | 17 | 9.87659 | 26 | 0.12341 | 9.90254 | 10 | 2 |
| 59 | 9.77930 | 16 | 9.87685 | 26 | 0.12315 | 9.90244 | 9 | 1 |
| 60 | 9.77946 | 17 | 9.87711 | 27 | 0.12289 | 9.90235 | 10 | 0 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP.
Seconds

| | 27 | 26 |
|---|---|---|
| 1 | 0.5 | 0.4 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.3 |
| 4 | 1.8 | 1.7 |
| 5 | 2.3 | 2.2 |
| 6 | 2.7 | 2.6 |
| 7 | 3.2 | 3.0 |
| 8 | 3.6 | 3.5 |
| 9 | 4.1 | 3.9 |
| 10 | 4.5 | 4.3 |
| 20 | 9.0 | 8.7 |
| 30 | 13.5 | 13.0 |
| 40 | 18.0 | 17.3 |
| 50 | 22.5 | 21.7 |

| | 17 | 16 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.6 | 0.5 |
| 3 | 0.9 | 0.8 |
| 4 | 1.1 | 1.1 |
| 5 | 1.4 | 1.3 |
| 6 | 1.7 | 1.6 |
| 7 | 2.0 | 1.9 |
| 8 | 2.3 | 2.1 |
| 9 | 2.6 | 2.4 |
| 10 | 2.8 | 2.7 |
| 20 | 5.7 | 5.3 |
| 30 | 8.5 | 8.0 |
| 40 | 11.3 | 10.7 |
| 50 | 14.2 | 13.3 |

| | 9 | 10 |
|---|---|---|
| 10 | 1.5 | 1.7 |
| 20 | 3.0 | 3.3 |
| 30 | 4.5 | 5.0 |
| 40 | 6.0 | 6.7 |
| 50 | 7.5 | 8.3 |

PP.

# 37°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **0** | **9.77946** | | **9.87711** | | **0.12289** | **9.90235** | | **60** |
| | | 17 | | 27 | | | 10 | |
| 1 | 9.77963 | | 9.87738 | | 0.12262 | 9.90225 | | 59 |
| 2 | 9.77980 | 17 | 9.87764 | 26 | 0.12236 | 9.90216 | 9 | 58 |
| 3 | 9.77997 | 17 | 9.87790 | 26 | 0.12210 | 9.90206 | 10 | 57 |
| 4 | 9.78013 | 16 | 9.87817 | 27 | 0.12183 | 9.90197 | 9 | 56 |
| | | 17 | | 26 | | | 10 | |
| **5** | **9.78030** | | **9.87843** | | **0.12157** | **9.90187** | | **55** |
| | | 17 | | 26 | | | 9 | |
| 6 | 9.78047 | | 9.87869 | | 0.12131 | 9.90178 | | 54 |
| **7** | 9.78063 | 16 | 9.87895 | 26 | 0.12105 | 9.90168 | 10 | 53 |
| 8 | 9.78080 | 17 | 9.87922 | 27 | 0.12078 | 9.90159 | 9 | 52 |
| 9 | 9.78097 | 17 | 9.87948 | 26 | 0.12052 | 9.90149 | 10 | 51 |
| | | 16 | | 26 | | | 10 | |
| **10** | **9.78113** | | **9.87974** | | **0.12026** | **9.90139** | | **50** |
| | | 17 | | 26 | | | 9 | |
| 11 | 9.78130 | | 9.88000 | | 0.12000 | 9.90130 | | 49 |
| 12 | 9.78147 | 17 | 9.88027 | 27 | 0.11973 | 9.90120 | 10 | 48 |
| 13 | 9.78163 | 16 | 9.88053 | 26 | 0.11947 | 9.90111 | 9 | 47 |
| 14 | 9.78180 | 17 | 9.88079 | 26 | 0.11921 | 9.90101 | 10 | 46 |
| | | 17 | | 26 | | | 10 | |
| **15** | **9.78197** | | **9.88105** | | **0.11895** | **9.90091** | | **45** |
| | | 16 | | 26 | | | 9 | |
| 16 | 9.78213 | | 9.88131 | | 0.11869 | 9.90082 | | 44 |
| 17 | 9.78230 | 17 | 9.88158 | 27 | 0.11842 | 9.90072 | 10 | 43 |
| 18 | 9.78246 | 16 | 9.88184 | 26 | 0.11816 | 9.90063 | 9 | 42 |
| 19 | 9.78263 | 17 | 9.88210 | 26 | 0.11790 | 9.90053 | 10 | 41 |
| | | 17 | | 26 | | | 10 | |
| **20** | **9.78280** | | **9.88236** | | **0.11764** | **9.90043** | | **40** |
| | | 16 | | 26 | | | 9 | |
| 21 | 9.78296 | | 9.88262 | | 0.11738 | 9.90034 | | 39 |
| 22 | 9.78313 | 17 | 9.88289 | 27 | 0.11711 | 9.90024 | 10 | 38 |
| 23 | 9.78329 | 16 | 9.88315 | 26 | 0.11685 | 9.90014 | 10 | 37 |
| 24 | 9.78346 | 17 | 9.88341 | 26 | 0.11659 | 9.90005 | 9 | 36 |
| | | 16 | | 26 | | | 10 | |
| **25** | **9.78362** | | **9.88367** | | **0.11633** | **9.89995** | | **35** |
| | | 17 | | 26 | | | 10 | |
| 26 | 9.78379 | | 9.88393 | | 0.11607 | 9.89985 | | 34 |
| 27 | 9.78395 | 16 | 9.88420 | 27 | 0.11580 | 9.89976 | 9 | 33 |
| 28 | 9.78412 | 17 | 9.88446 | 26 | 0.11554 | 9.89966 | 10 | 32 |
| 29 | 9.78428 | 16 | 9.88472 | 26 | 0.11528 | 9.89956 | 10 | 31 |
| | | 17 | | 26 | | | 9 | |
| **30** | **9.78445** | | **9.88498** | | **0.11502** | **9.89947** | | **30** |
| | | 16 | | 26 | | | 10 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 27 | 26 |
|---|---|---|
| 1 | 0.5 | 0.4 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.3 |
| 4 | 1.8 | 1.7 |
| 5 | 2.3 | 2.2 |
| 6 | 2.7 | 2.6 |
| 7 | 3.2 | 3.0 |
| 8 | 3.6 | 3.5 |
| 9 | 4.1 | 3.9 |
| 10 | 4.5 | 4.3 |
| 20 | 9.0 | 8.7 |
| 30 | 13.5 | 13.0 |
| 40 | 18.0 | 17.3 |
| 50 | 22.5 | 21 7 |

| | 17 | 16 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.6 | 0.5 |
| 3 | 0.9 | 0.8 |
| 4 | 1.1 | 1.1 |
| 5 | 1.4 | 1.3 |
| 6 | 1.7 | 1.6 |
| 7 | 2.0 | 1.9 |
| 8 | 2.3 | 2.1 |
| 9 | 2.6 | 2.4 |
| 10 | 2.8 | 2.7 |
| 20 | 5.7 | 5.3 |
| 30 | 8.5 | 8.0 |
| 40 | 11.3 | 10.7 |
| 50 | 14.2 | 13.3 |

| | 9 | 10 |
|---|---|---|
| 10 | 1.5 | 1.7 |
| 20 | 3.0 | 3.3 |
| 30 | 4.5 | 5.0 |
| 40 | 6.0 | 6.7 |
| 50 | 7.5 | 8.3 |

PP.

# 52°

# 37°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **30** | **9.78445** | | **9.88498** | | **0.11502** | **9.89947** | | **30** |
| | | 16 | | 26 | | | 10 | |
| 31 | 9.78461 | | 9.88524 | | 0.11476 | 9.89937 | | 29 |
| | | 17 | | 26 | | | 10 | |
| 32 | 9.78478 | | 9.88550 | | 0.11450 | 9.89927 | | 28 |
| | | 16 | | 27 | | | 9 | |
| 33 | 9.78494 | | 9.88577 | | 0.11423 | 9.89918 | | 27 |
| | | 16 | | 26 | | | 10 | |
| 34 | 9.78510 | | 9.88603 | | 0.11397 | 9.89908 | | 26 |
| | | 17 | | 26 | | | 10 | |
| **35** | **9.78527** | | **9.88629** | | **0.11371** | **9.89898** | | **25** |
| | | 16 | | 26 | | | 10 | |
| 36 | 9.78543 | | 9.88655 | | 0.11345 | 9.89888 | | 24 |
| | | 17 | | 26 | | | 9 | |
| 37 | 9.78560 | | 9.88681 | | 0.11319 | 9.89879 | | 23 |
| | | 16 | | 26 | | | 10 | |
| 38 | 9.78576 | | 9.88707 | | 0.11293 | 9.89869 | | 22 |
| | | 16 | | 26 | | | 10 | |
| 39 | 9.78592 | | 9.88733 | | 0.11267 | 9.89859 | | 21 |
| | | 17 | | 26 | | | 10 | |
| **40** | **9.78609** | | **9.88759** | | **0.11241** | **9.89849** | | **20** |
| | | 16 | | 27 | | | 9 | |
| 41 | 9.78625 | | 9.88786 | | 0.11214 | 9.89840 | | 19 |
| | | 17 | | 26 | | | 10 | |
| 42 | 9.78642 | | 9.88812 | | 0.11188 | 9.89830 | | 18 |
| | | 16 | | 26 | | | 10 | |
| 43 | 9.78658 | | 9.88838 | | 0.11162 | 9.89820 | | 17 |
| | | 16 | | 26 | | | 10 | |
| 44 | 9.78674 | | 9.88864 | | 0.11136 | 9.89810 | | 16 |
| | | 17 | | 26 | | | 9 | |
| **45** | **9.78691** | | **9.88890** | | **0.11110** | **9.89801** | | **15** |
| | | 16 | | 26 | | | 10 | |
| 46 | 9.78707 | | 9.88916 | | 0.11084 | 9.89791 | | 14 |
| | | 16 | | 26 | | | 10 | |
| 47 | 9.78723 | | 9.88942 | | 0.11058 | 9.89781 | | 13 |
| | | 16 | | 26 | | | 10 | |
| 48 | 9.78739 | | 9.88968 | | 0.11032 | 9.89771 | | 12 |
| | | 17 | | 26 | | | 10 | |
| 49 | 9.78756 | | 9.88994 | | 0.11006 | 9.89761 | | 11 |
| | | 16 | | 26 | | | 9 | |
| **50** | **9.78772** | | **9.89020** | | **0.10980** | **9.89752** | | **10** |
| | | 16 | | 26 | | | 10 | |
| 51 | 9.78788 | | 9.89046 | | 0.10954 | 9.89742 | | 9 |
| | | 17 | | 27 | | | 10 | |
| 52 | 9.78805 | | 9.89073 | | 0.10927 | 9.89732 | | 8 |
| | | 16 | | 26 | | | 10 | |
| 53 | 9.78821 | | 9.89099 | | 0.10901 | 9.89722 | | 7 |
| | | 16 | | 26 | | | 10 | |
| 54 | 9.78837 | | 9.89125 | | 0.10875 | 9.89712 | | 6 |
| | | 16 | | 26 | | | 10 | |
| **55** | **9.78853** | | **9.89151** | | **0.10849** | **9.89702** | | **5** |
| | | 16 | | 26 | | | 9 | |
| 56 | 9.78869 | | 9.89177 | | 0.10823 | 9.89693 | | 4 |
| | | 17 | | 26 | | | 10 | |
| 57 | 9.78886 | | 9.89203 | | 0.10797 | 9.89683 | | 3 |
| | | 16 | | 26 | | | 10 | |
| 58 | 9.78902 | | 9.89229 | | 0.10771 | 9.89673 | | 2 |
| | | 16 | | 26 | | | 10 | |
| 59 | 9.78918 | | 9.89255 | | 0.10745 | 9.89663 | | 1 |
| | | 16 | | 26 | | | 10 | |
| **60** | **9.78934** | | **9.89281** | | **0.10719** | **9.89653** | | **0** |
| | | 16 | | 26 | | | 10 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 27 | 26 |
|---|---|---|
| 1 | 0.5 | 0.4 |
| 2 | 0.9 | 0.9 |
| 3 | 1.4 | 1.3 |
| 4 | 1.8 | 1.7 |
| 5 | 2.3 | 2.2 |
| 6 | 2.7 | 2.6 |
| 7 | 3.2 | 3.0 |
| 8 | 3.6 | 3.5 |
| 9 | 4.1 | 3.9 |
| 10 | 4.5 | 4.3 |
| 20 | 9.0 | 8.7 |
| 30 | 13.5 | 13.0 |
| 40 | 18.0 | 17.3 |
| 50 | 22.5 | 21.7 |

| | 17 | 16 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.6 | 0.5 |
| 3 | 0.9 | 0.8 |
| 4 | 1.1 | 1.1 |
| 5 | 1.4 | 1.3 |
| 6 | 1.7 | 1.6 |
| 7 | 2.0 | 1.9 |
| 8 | 2.3 | 2.1 |
| 9 | 2.6 | 2.4 |
| 10 | 2.8 | 2.7 |
| 20 | 5.7 | 5.3 |
| 30 | 8.5 | 8.0 |
| 40 | 11.3 | 10.7 |
| 50 | 14.2 | 13.3 |

| | 9 | 10 |
|---|---|---|
| 10 | 1.5 | 1.7 |
| 20 | 3.0 | 3.3 |
| 30 | 4.5 | 5.0 |
| 40 | 6.0 | 6.7 |
| 50 | 7.5 | 8.3 |

PP.

# 52°

# 38°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **9.78934** | | **9.89281** | | **0.10719** | **9.89653** | | 60 | |
| | | 16 | | 26 | | | 10 | | |
| 1 | 9.78950 | | 9.89307 | | 0.10693 | 9.89643 | | 59 | |
| | | 17 | | 26 | | | 10 | | |
| 2 | 9.78967 | | 9.89333 | | 0.10667 | 9.89633 | | 58 | |
| | | 16 | | 26 | | | 9 | | |
| 3 | 9.78983 | | 9.89359 | | 0.10641 | 9.89624 | | 57 | |
| | | 16 | | 26 | | | 10 | | |
| 4 | 9.78999 | | 9.89385 | | 0.10615 | 9.89614 | | 56 | |
| | | 16 | | 26 | | | 10 | | |
| **5** | **9.79015** | | **9.89411** | | **0.10589** | **9.89604** | | 55 | |
| | | 16 | | 26 | | | 10 | | |
| 6 | 9.79031 | | 9.89437 | | 0.10563 | 9.89594 | | 54 | |
| | | 16 | | 26 | | | 10 | | |
| 7 | 9.79047 | | 9.89463 | | 0.10537 | 9.89584 | | 53 | |
| | | 16 | | 26 | | | 10 | | |
| 8 | 9.79063 | | 9.89489 | | 0.10511 | 9.89574 | | 52 | |
| | | 16 | | 26 | | | 10 | | |
| 9 | 9.79079 | | 9.89515 | | 0.10485 | 9.89564 | | 51 | |
| | | 16 | | 26 | | | 10 | | |
| **10** | **9.79095** | | **9.89541** | | **0.10459** | **9.89554** | | 50 | |
| | | 16 | | 26 | | | 10 | | |
| 11 | 9.79111 | | 9.89567 | | 0.10433 | 9.89544 | | 49 | |
| | | 17 | | 26 | | | 10 | | |
| 12 | 9.79128 | | 9.89593 | | 0.10407 | 9.89534 | | 48 | |
| | | 16 | | 26 | | | 10 | | |
| 13 | 9.79144 | | 9.89619 | | 0.10381 | 9.89524 | | 47 | |
| | | 16 | | 26 | | | 10 | | |
| 14 | 9.79160 | | 9.89645 | | 0.10355 | 9.89514 | | 46 | |
| | | 16 | | 26 | | | 10 | | |
| **15** | **9.79176** | | **9.89671** | | **0.10329** | **9.89504** | | 45 | |
| | | 16 | | 26 | | | 9 | | |
| 16 | 9.79192 | | 9.89697 | | 0.10303 | 9.89495 | | 44 | |
| | | 16 | | 26 | | | 10 | | |
| 17 | 9.79208 | | 9.89723 | | 0.10277 | 9.89485 | | 43 | |
| | | 16 | | 26 | | | 10 | | |
| 18 | 9.79224 | | 9.89749 | | 0.10251 | 9.89475 | | 42 | |
| | | 16 | | 26 | | | 10 | | |
| 19 | 9.79240 | | 9.89775 | | 0.10225 | 9.89465 | | 41 | |
| | | 16 | | 26 | | | 10 | | |
| **20** | **9.79256** | | **9.89801** | | **0.10199** | **9.89455** | | 40 | |
| | | 16 | | 26 | | | 10 | | |
| 21 | 9.79272 | | 9.89827 | | 0.10173 | 9.89445 | | 39 | |
| | | 16 | | 26 | | | 10 | | |
| 22 | 9.79288 | | 9.89853 | | 0.10147 | 9.89435 | | 38 | |
| | | 16 | | 26 | | | 10 | | |
| 23 | 9.79304 | | 9.89879 | | 0.10121 | 9.89425 | | 37 | |
| | | 15 | | 26 | | | 10 | | |
| 24 | 9.79319 | | 9.89905 | | 0.10095 | 9.89415 | | 36 | |
| | | 16 | | 26 | | | 10 | | |
| **25** | **9.79335** | | **9.89931** | | **0.10069** | **9.89405** | | 35 | |
| | | 16 | | 26 | | | 10 | | |
| 26 | 9.79351 | | 9.89957 | | 0.10043 | 9.89395 | | 34 | |
| | | 16 | | 26 | | | 10 | | |
| 27 | 9.79367 | | 9.89983 | | 0.10017 | 9.89385 | | 33 | |
| | | 16 | | 26 | | | 10 | | |
| 28 | 9.79383 | | 9.90009 | | 0.09991 | 9.89375 | | 32 | |
| | | 16 | | 26 | | | 11 | | |
| 29 | 9.79399 | | 9.90035 | | 0.09965 | 9.89364 | | 31 | |
| | | 16 | | 26 | | | 10 | | |
| **30** | **9.79415** | | **9.90061** | | **0.09939** | **9.89354** | | 30 | |
| | | 16 | | 25 | | | 10 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| | 26 | 25 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.9 | 0.8 |
| 3 | 1.3 | 1.3 |
| 4 | 1.7 | 1.7 |
| 5 | 2.2 | 2.1 |
| 6 | 2.6 | 2.5 |
| 7 | 3.0 | 2.9 |
| 8 | 3.5 | 3.3 |
| 9 | 3.9 | 3.8 |
| 10 | 4.3 | 4.2 |
| 20 | 8.7 | 8.3 |
| 30 | 13.0 | 12.5 |
| 40 | 17.3 | 16.7 |
| 50 | 21.7 | 20.8 |

| | 17 | 16 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.6 | 0.5 |
| 3 | 0.9 | 0.8 |
| 4 | 1.1 | 1.1 |
| 5 | 1.4 | 1.3 |
| 6 | 1.7 | 1.6 |
| 7 | 2.0 | 1.9 |
| 8 | 2.3 | 2.1 |
| 9 | 2.6 | 2.4 |
| 10 | 2.8 | 2.7 |
| 20 | 5.7 | 5.3 |
| 30 | 8.5 | 8.0 |
| 40 | 11.3 | 10.7 |
| 50 | 14.2 | 13.3 |

| | 9 | 10 |
|---|---|---|
| 10 | 1.5 | 1.7 |
| 20 | 3.0 | 3.3 |
| 30 | 4.5 | 5.0 |
| 40 | 6.0 | 6.7 |
| 50 | 7.5 | 8.3 |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.79415** | | **9.90061** | | **0.09939** | **9.89354** | | 30 | |
| | | 16 | | 25 | | | 10 | | |
| 31 | 9.79431 | | 9.90086 | | 0.09914 | 9.89344 | | 29 | |
| 32 | 9.79447 | 16 | 9.90112 | 26 | 0.09888 | 9.89334 | 10 | 28 | |
| 33 | 9.79463 | 16 | 9.90138 | 26 | 0.09862 | 9.89324 | 10 | 27 | 26 25 |
| 34 | 9.79478 | 15 | 9.90164 | 26 | 0.09836 | 9.89314 | 10 | 26 | 1 0.4 0.4 |
| | | 16 | | 26 | | | 10 | | 2 0.9 0.8 |
| **35** | **9.79494** | | **9.90190** | | **0.09810** | **9.89304** | | **25** | 3 1.3 1.3 |
| | | 16 | | 26 | | | 10 | | 4 1.7 1.7 |
| 36 | 9.79510 | | 9.90216 | | 0.09784 | 9.89294 | | 24 | 5 2.2 2.1 |
| 37 | 9.79526 | 16 | 9.90242 | 26 | 0.09758 | 9.89284 | 10 | 23 | 6 2.6 2.5 |
| 38 | 9.79542 | 16 | 9.90268 | 26 | 0.09732 | 9.89274 | 10 | 22 | 7 3.0 2.9 |
| 39 | 9.79558 | 16 | 9.90294 | 26 | 0.09706 | 9.89264 | 10 | 21 | 8 3.5 3.3 |
| | | 15 | | 26 | | | 10 | | 9 3.9 3.8 |
| **40** | **9.79573** | | **9.90320** | | **0.09680** | **9.89254** | | **20** | 10 4.3 4.2 |
| | | 16 | | 26 | | | 10 | | 20 8.7 8.3 |
| 41 | 9.79589 | | 9.90346 | | 0.09654 | 9.89244 | | 19 | 30 13.0 12.5 |
| 42 | 9.79605 | 16 | 9.90371 | 25 | 0.09629 | 9.89233 | 11 | 18 | 40 17.3 16.7 |
| 43 | 9.79621 | 16 | 9.90397 | 26 | 0.09603 | 9.89223 | 10 | 17 | 50 21.7 20.8 |
| 44 | 9.79636 | 15 | 9.90423 | 26 | 0.09577 | 9.89213 | 10 | 16 | |
| | | 16 | | 26 | | | 10 | | 16 15 |
| **45** | **9.79652** | | **9.90449** | | **0.09551** | **9.89203** | | **15** | 1 0.3 0.3 |
| | | 16 | | 26 | | | 10 | | 2 0.5 0.5 |
| 46 | 9.79668 | | 9.90475 | | 0.09525 | 9.89193 | | 14 | 3 0.8 0.8 |
| 47 | 9.79684 | 16 | 9.90501 | 26 | 0.09499 | 9.89183 | 10 | 13 | 4 1.1 1.0 |
| 48 | 9.79699 | 15 | 9.90527 | 26 | 0.09473 | 9.89173 | 10 | 12 | 5 1.3 1.3 |
| 49 | 9.79715 | 16 | 9.90553 | 26 | 0.09447 | 9.89162 | 11 | 11 | 6 1.6 1.5 |
| | | 16 | | 25 | | | 10 | | 7 1.9 1.8 |
| **50** | **9.79731** | | **9.90578** | 26 | **0.09422** | **9.89152** | | **10** | 8 2.1 2.0 |
| | | 15 | | | | | 10 | | 9 2.4 2.3 |
| 51 | 9.79746 | | 9.90604 | | 0.09396 | 9.89142 | | 9 | 10 2.7 2.5 |
| 52 | 9.79762 | 16 | 9.90630 | 26 | 0.09370 | 9.89132 | 10 | 8 | 20 5.3 5.0 |
| 53 | 9.79778 | 16 | 9.90656 | 26 | 0.09344 | 9.89122 | 10 | 7 | 30 8.0 7.5 |
| 54 | 9.79793 | 15 | 9.90682 | 26 | 0.09318 | 9.89112 | 10 | 6 | 40 10.7 10.0 |
| | | 16 | | 26 | | | 11 | | 50 13.3 12.5 |
| **55** | **9.79809** | | **9.90708** | | **0.09292** | **9.89101** | | **5** | 10 0.2 0.2 |
| | | 16 | | 26 | | | 10 | | 20 0.3 0.4 |
| 56 | 9.79825 | | 9.90734 | | 0.09266 | 9.89091 | | 4 | 30 0.5 0.6 |
| 57 | 9.79840 | 15 | 9.90759 | 25 | 0.09241 | 9.89081 | 10 | 3 | 40 0.7 0.7 |
| 58 | 9.79856 | 16 | 9.90785 | 26 | 0.09215 | 9.89071 | 10 | 2 | 50 0.8 0.9 |
| 59 | 9.79872 | 16 | 9.90811 | 26 | 0.09189 | 9.89060 | 11 | 1 | 60 1.0 1.1 |
| | | 15 | | 26 | | | 10 | | 70 1.2 1.3 |
| **60** | **9.79887** | 16 | **9.90837** | 26 | **0.09163** | **9.89050** | 10 | **0** | 80 1.3 1.5 |
| | | | | | | | | | 90 1.5 1.7 |
| | | | | | | | | | 100 1.7 1.8 |
| | | | | | | | | | 200 3.3 3.7 |
| | | | | | | | | | 300 5.0 5.5 |
| | | | | | | | | | 400 6.7 7.3 |
| | | | | | | | | | 500 8.3 9.2 |
| Min. | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 39°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **9.79887** | | **9.90837** | | **0.09163** | **9.89050** | | 60 | |
| | | 16 | | 26 | | | 10 | | |
| 1 | 9.79903 | | 9.90863 | | 0.09137 | 9.89040 | | 59 | |
| | | 15 | | 26 | | | 10 | | |
| 2 | 9.79918 | | 9.90889 | | 0.09111 | 9.89030 | | 58 | |
| | | 16 | | 25 | | | 10 | | |
| 3 | 9.79934 | | 9.90914 | | 0.09086 | 9.89020 | | 57 | |
| | | 16 | | 26 | | | 11 | | |
| 4 | 9.79950 | | 9.90940 | | 0.09060 | 9.89009 | | 56 | |
| | | 15 | | 26 | | | 10 | | |
| **5** | **9.79965** | | **9.90966** | | **0.09034** | **9.88999** | | 55 | |
| | | 16 | | 26 | | | 10 | | |
| 6 | 9.79981 | | 9.90992 | | 0.09008 | 9.88989 | | 54 | |
| | | 15 | | 26 | | | 11 | | |
| 7 | 9.79996 | | 9.91018 | | 0.08982 | 9.88978 | | 53 | |
| | | 16 | | 25 | | | 10 | | |
| 8 | 9.80012 | | 9.91043 | | 0.08957 | 9.88968 | | 52 | |
| | | 15 | | 26 | | | 10 | | |
| 9 | 9.80027 | | 9.91069 | | 0.08931 | 9.88958 | | 51 | |
| | | 16 | | 26 | | | 10 | | |
| **10** | **9.80043** | | **9.91095** | | **0.08905** | **9.88948** | | 50 | |
| | | 15 | | 26 | | | 11 | | |
| 11 | 9.80058 | | 9.91121 | | 0.08879 | 9.88937 | | 49 | |
| | | 16 | | 26 | | | 10 | | |
| 12 | 9.80074 | | 9.91147 | | 0.08853 | 9.88927 | | 48 | |
| | | 15 | | 25 | | | 10 | | |
| 13 | 9.80089 | | 9.91172 | | 0.08828 | 9.88917 | | 47 | |
| | | 16 | | 26 | | | 11 | | |
| 14 | 9.80105 | | 9.91198 | | 0.08802 | 9.88906 | | 46 | |
| | | 15 | | 26 | | | 10 | | |
| **15** | **9.80120** | | **9.91224** | | **0.08776** | **9.88896** | | 45 | |
| | | 16 | | 26 | | | 10 | | |
| 16 | 9.80136 | | 9.91250 | | 0.08750 | 9.88886 | | 44 | |
| | | 15 | | 26 | | | 11 | | |
| 17 | 9.80151 | | 9.91276 | | 0.08724 | 9.88875 | | 43 | |
| | | 15 | | 25 | | | 10 | | |
| 18 | 9.80166 | | 9.91301 | | 0.08699 | 9.88865 | | 42 | |
| | | 16 | | 26 | | | 10 | | |
| 19 | 9.80182 | | 9.91327 | | 0.08673 | 9.88855 | | 41 | |
| | | 15 | | 26 | | | 11 | | |
| **20** | **9.80197** | | **9.91353** | | **0.08647** | **9.88844** | | 40 | |
| | | 16 | | 26 | | | 10 | | |
| 21 | 9.80213 | | 9.91379 | | 0.08621 | 9.88834 | | 39 | |
| | | 15 | | 25 | | | 10 | | |
| 22 | 9.80228 | | 9.91404 | | 0.08596 | 9.88824 | | 38 | |
| | | 16 | | 26 | | | 11 | | |
| 23 | 9.80244 | | 9.91430 | | 0.08570 | 9.88813 | | 37 | |
| | | 15 | | 26 | | | 10 | | |
| 24 | 9.80259 | | 9.91456 | | 0.08544 | 9.88803 | | 36 | |
| | | 15 | | 26 | | | 10 | | |
| **25** | **9.80274** | | **9.91482** | | **0.08518** | **9.88793** | | 35 | |
| | | 16 | | 25 | | | 11 | | |
| 26 | 9.80290 | | 9.91507 | | 0.08493 | 9.88782 | | 34 | |
| | | 15 | | 26 | | | 10 | | |
| 27 | 9.80305 | | 9.91533 | | 0.08467 | 9.88772 | | 33 | |
| | | 15 | | 26 | | | 11 | | |
| 28 | 9.80320 | | 9.91559 | | 0.08441 | 9.88761 | | 32 | |
| | | 16 | | 26 | | | 10 | | |
| 29 | 9.80336 | | 9.91585 | | 0.08415 | 9.88751 | | 31 | |
| | | 15 | | 25 | | | 10 | | |
| **30** | **9.80351** | | **9.91610** | | **0.08390** | **9.88741** | | 30 | |
| | | 15 | | 26 | | | 11 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| | 26 | 25 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.9 | 0.8 |
| 3 | 1.3 | 1.3 |
| 4 | 1.7 | 1.7 |
| 5 | 2.2 | 2.1 |
| 6 | 2.6 | 2.5 |
| 7 | 3.0 | 2.9 |
| 8 | 3.5 | 3.3 |
| 9 | 3.9 | 3.8 |
| 10 | 4.3 | 4.2 |
| 20 | 8.7 | 8.3 |
| 30 | 13.0 | 12.5 |
| 40 | 17.3 | 16.7 |
| 50 | 21.7 | 20.8 |

| | 16 | 15 |
|---|---|---|
| 1 | 0.3 | 0.3 |
| 2 | 0.5 | 0.5 |
| 3 | 0.8 | 0.8 |
| 4 | 1.1 | 1.0 |
| 5 | 1.3 | 1.3 |
| 6 | 1.6 | 1.5 |
| 7 | 1.9 | 1.8 |
| 8 | 2.1 | 2.0 |
| 9 | 2.4 | 2.3 |
| 10 | 2.7 | 2.5 |
| 20 | 5.3 | 5.0 |
| 30 | 8.0 | 7.5 |
| 40 | 10.7 | 10.0 |
| 50 | 13.3 | 12.5 |

| | 10 | 11 |
|---|---|---|
| 1 | 0.2 | 0.2 |
| 2 | 0.3 | 0.4 |
| 3 | 0.5 | 0.6 |
| 4 | 0.7 | 0.7 |
| 5 | 0.8 | 0.9 |
| 6 | 1.0 | 1.1 |
| 7 | 1.2 | 1.3 |
| 8 | 1.3 | 1.5 |
| 9 | 1.5 | 1.7 |
| 10 | 1.7 | 1.8 |
| 20 | 3.3 | 3.7 |
| 30 | 5.0 | 5.5 |
| 40 | 6.7 | 7.3 |
| 50 | 8.3 | 9.2 |

# 50°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.80351** | | **9.91610** | | **0.08390** | **9.88741** | | **30** | |
| | | 15 | | 26 | | | 11 | | |
| 31 | 9.80366 | | 9.91636 | | 0.08364 | 9.88730 | | 29 | |
| | | 16 | | 26 | | | 10 | | |
| 32 | 9.80382 | | 9.91662 | | 0.08338 | 9.88720 | | 28 | |
| | | 15 | | 26 | | | 11 | | 26 25 |
| 33 | 9.80397 | | 9.91688 | | 0.08312 | 9.88709 | | 27 | 1 0.4 0.4 |
| | | 15 | | 25 | | | 10 | | 2 0.9 0.8 |
| 34 | 9.80412 | | 9.91713 | | 0.08287 | 9.88699 | | 26 | 3 1.3 1.3 |
| | | 16 | | 26 | | | 11 | | 4 1.7 1.7 |
| **35** | **9.80428** | | **9.91739** | | **0.08261** | **9.88688** | | **25** | 5 2.2 2.1 |
| | | 15 | | 26 | | | 10 | | 6 2.6 2.5 |
| 36 | 9.80443 | | 9.91765 | | 0.08235 | 9.88678 | | 24 | 7 3.0 2.9 |
| | | 15 | | 26 | | | 10 | | 8 3.5 3.3 |
| 37 | 9.80458 | | 9.91791 | | 0.08209 | 9.88668 | | 23 | 9 3.9 3.8 |
| | | 15 | | 25 | | | 11 | | 10 4.3 4.2 |
| 38 | 9.80473 | | 9.91816 | | 0.08184 | 9.88657 | | 22 | 20 8.7 8.3 |
| | | 16 | | 26 | | | 10 | | 30 13.0 12.5 |
| 39 | 9.80489 | | 9.91842 | | 0.08158 | 9.88647 | | 21 | 40 17.3 16.7 |
| | | 15 | | 26 | | | 11 | | 50 21.7 20.8 |
| **40** | **9.80504** | | **9.91868** | | **0.08132** | **9.88636** | | **20** | |
| | | 15 | | 25 | | | 10 | | |
| 41 | 9.80519 | | 9.91893 | | 0.08107 | 9.88626 | | 19 | |
| | | 15 | | 26 | | | 11 | | 16 15 |
| 42 | 9.80534 | | 9.91919 | | 0.08081 | 9.88615 | | 18 | 1 0.3 0.3 |
| | | 16 | | 26 | | | 10 | | 2 0.5 0.5 |
| 43 | 9.80550 | | 9.91945 | | 0.08055 | 9.88605 | | 17 | 3 0.8 0.8 |
| | | 15 | | 26 | | | 11 | | 4 1.1 1.0 |
| 44 | 9.80565 | | 9.91971 | | 0.08029 | 9.88594 | | 16 | 5 1.3 1.3 |
| | | 15 | | 25 | | | 10 | | 6 1.6 1.5 |
| **45** | **9.80580** | | **9.91996** | | **0.08004** | **9.88584** | | **15** | 7 1.9 1.8 |
| | | 15 | | 26 | | | 11 | | 8 2.1 2.0 |
| 46 | 9.80595 | | 9.92022 | | 0.07978 | 9.88573 | | 14 | 9 2.4 2.3 |
| | | 15 | | 26 | | | 10 | | 10 2.7 2.5 |
| 47 | 9.80610 | | 9.92048 | | 0.07952 | 9.88563 | | 13 | 20 5.3 5.0 |
| | | 15 | | 25 | | | 11 | | 30 8.0 7.5 |
| 48 | 9.80625 | | 9.92073 | | 0.07927 | 9.88552 | | 12 | 40 10.7 10.0 |
| | | 16 | | 26 | | | 10 | | 50 13.3 12.5 |
| 49 | 9.80641 | | 9.92099 | | 0.07901 | 9.88542 | | 11 | |
| | | 15 | | 26 | | | 11 | | |
| **50** | **9.80656** | | **9.92125** | | **0.07875** | **9.88531** | | **10** | |
| | | 15 | | 25 | | | 10 | | |
| 51 | 9.80671 | | 9.92150 | | 0.07850 | 9.88521 | | 9 | 10 11 |
| | | 15 | | 26 | | | 11 | | 1 0.2 0.2 |
| 52 | 9.80686 | | 9.92176 | | 0.07824 | 9.88510 | | 8 | 2 0.3 0.4 |
| | | 15 | | 26 | | | 11 | | 3 0.5 0.6 |
| 53 | 9.80701 | | 9.92202 | | 0.07798 | 9.88499 | | 7 | 4 0.7 0.7 |
| | | 15 | | 25 | | | 10 | | 5 0.8 0.9 |
| 54 | 9.80716 | | 9.92227 | | 0.07773 | 9.88489 | | 6 | 6 1.0 1.1 |
| | | 15 | | 26 | | | 11 | | 7 1.2 1.3 |
| **55** | **9.80731** | | **9.92253** | | **0.07747** | **9.88478** | | **5** | 8 1.3 1.5 |
| | | 15 | | 26 | | | 10 | | 9 1.5 1.7 |
| 56 | 9.80746 | 16 | 9.92279 | | 0.07721 | 9.88468 | | 4 | 10 1.7 1.8 |
| | | | | 25 | | | 11 | | 20 3.3 3.7 |
| 57 | 9.80762 | 15 | 9.92304 | 26 | 0.07696 | 9.88457 | 10 | 3 | 30 5.0 5.5 |
| 58 | 9.80777 | | 9.92330 | 26 | 0.07670 | 9.88447 | 11 | 2 | 40 6.7 7.3 |
| | | 15 | | | | | | | 50 8.3 9.2 |
| 59 | 9.80792 | | 9.92356 | | 0.07644 | 9.88436 | | 1 | |
| | | 15 | | 25 | | | 11 | | |
| **60** | **9.80807** | | **9.92381** | | **0.07619** | **9.88425** | | **0** | |
| | | 15 | | 26 | | | 10 | | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 40°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| **0** | **9.80807** | | **9.92381** | | **0.07619** | **9.88425** | | **60** |
| | | 15 | | 26 | | | 10 | |
| 1 | 9.80822 | | 9.92407 | | 0.07593 | 9.88415 | | 59 |
| 2 | 9.80837 | 15 | 9.92433 | 26 | 0.07567 | 9.88404 | 11 | 58 |
| 3 | 9.80852 | 15 | 9.92458 | 25 | 0.07542 | 9.88394 | 10 | 57 |
| 4 | 9.80867 | 15 | 9.92484 | 26 | 0.07516 | 9.88383 | 11 | 56 |
| | | 15 | | 26 | | | 11 | |
| **5** | **9.80882** | | **9.92510** | | **0.07490** | **9.88372** | | **55** |
| | | 15 | | 25 | | | 10 | |
| 6 | 9.80897 | | 9.92535 | | 0.07465 | 9.88362 | | 54 |
| 7 | 9.80912 | 15 | 9.92561 | 26 | 0.07439 | 9.88351 | 11 | 53 |
| 8 | 9.80927 | 15 | 9.92587 | 26 | 0.07413 | 9.88340 | 11 | 52 |
| 9 | 9.80942 | 15 | 9.92612 | 25 | 0.07388 | 9.88330 | 10 | 51 |
| | | 15 | | 26 | | | 11 | |
| **10** | **9.80957** | | **9.92638** | | **0.07362** | **9.88319** | | **50** |
| | | 15 | | 25 | | | 11 | |
| 11 | 9.80972 | | 9.92663 | | 0.07337 | 9.88308 | | 49 |
| 12 | 9.80987 | 15 | 9.92689 | 26 | 0.07311 | 9.88298 | 10 | 48 |
| 13 | 9.81002 | 15 | 9.92715 | 26 | 0.07285 | 9.88287 | 11 | 47 |
| 14 | 9.81017 | 15 | 9.92740 | 25 | 0.07260 | 9.88276 | 11 | 46 |
| | | 15 | | 26 | | | 10 | |
| **15** | **9.81032** | | **9.92766** | | **0.07234** | **9.88266** | | **45** |
| | | 15 | | 26 | | | 11 | |
| 16 | 9.81047 | | 9.92792 | | 0.07208 | 9.88255 | | 44 |
| 17 | 9.81061 | 14 | 9.92817 | 25 | 0.07183 | 9.88244 | 11 | 43 |
| 18 | 9.81076 | 15 | 9.92843 | 26 | 0.07157 | 9.88234 | 10 | 42 |
| 19 | 9.81091 | 15 | 9.92868 | 25 | 0.07132 | 9.88223 | 11 | 41 |
| | | 15 | | 26 | | | 11 | |
| **20** | **9.81106** | | **9.92894** | | **0.07106** | **9.88212** | | **40** |
| | | 15 | | 26 | | | 11 | |
| 21 | 9.81121 | | 9.92920 | | 0.07080 | 9.88201 | | 39 |
| 22 | 9.81136 | 15 | 9.92945 | 25 | 0.07055 | 9.88191 | 10 | 38 |
| 23 | 9.81151 | 15 | 9.92971 | 26 | 0.07029 | 9.88180 | 11 | 37 |
| 24 | 9.81166 | 15 | 9.92996 | 25 | 0.07004 | 9.88169 | 11 | 36 |
| | | 14 | | 26 | | | 11 | |
| **25** | **9.81180** | | **9.93022** | | **0.06978** | **9.88158** | | **35** |
| | | 15 | | 26 | | | 10 | |
| 26 | 9.81195 | | 9.93048 | | 0.06952 | 9.88148 | | 34 |
| 27 | 9.81210 | 15 | 9.93073 | 25 | 0.06927 | 9.88137 | 11 | 33 |
| 28 | 9.81225 | 15 | 9.93099 | 26 | 0.06901 | 9.88126 | 11 | 32 |
| 29 | 9.81240 | 15 | 9.93124 | 25 | 0.06876 | 9.88115 | 11 | 31 |
| | | 14 | | 26 | | | 10 | |
| **30** | **9.81254** | | **9.93150** | | **0.06850** | **9.88105** | | **30** |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP's Seconds

| | 26 | 25 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.9 | 0.8 |
| 3 | 1.3 | 1.3 |
| 4 | 1.7 | 1.7 |
| 5 | 2.2 | 2.1 |
| 6 | 2.6 | 2.5 |
| 7 | 3.0 | 2.9 |
| 8 | 3.5 | 3.3 |
| 9 | 3.9 | 3.8 |
| 10 | 4.3 | 4.2 |
| 20 | 8.7 | 8.3 |
| 30 | 13.0 | 12.5 |
| 40 | 17.3 | 16.7 |
| 50 | 21.7 | 20.8 |

| | 15 | 14 |
|---|---|---|
| 1 | 0.3 | 0.2 |
| 2 | 0.5 | 0.5 |
| 3 | 0.8 | 0.7 |
| 4 | 1.0 | 0.9 |
| 5 | 1.3 | 1.2 |
| 6 | 1.5 | 1.4 |
| 7 | 1.8 | 1.6 |
| 8 | 2.0 | 1.9 |
| 9 | 2.3 | 2.1 |
| 10 | 2.5 | 2.3 |
| 20 | 5.0 | 4.7 |
| 30 | 7.5 | 7.0 |
| 40 | 10.0 | 9.3 |
| 50 | 12.5 | 11.7 |

| | 10 | 11 |
|---|---|---|
| 1 | 0.2 | 0.2 |
| 2 | 0.3 | 0.4 |
| 3 | 0.5 | 0.6 |
| 4 | 0.7 | 0.7 |
| 5 | 0.8 | 0.9 |
| 6 | 1.0 | 1.1 |
| 7 | 1.2 | 1.3 |
| 8 | 1.3 | 1.5 |
| 9 | 1.5 | 1.7 |
| 10 | 1.7 | 1.8 |
| 20 | 3.3 | 3.7 |
| 30 | 5.0 | 5.5 |
| 40 | 6.7 | 7.3 |
| 50 | 8.3 | 9.2 |

PP.

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.81254** | | **9.93150** | | **0.06850** | **9.88105** | | **30** | |
| | | 15 | | 25 | | | 11 | | |
| 31 | 9.81269 | | 9.93175 | | 0.06825 | 9.88094 | | 29 | |
| | | 15 | | 26 | | | 11 | | |
| 32 | 9.81284 | | 9.93201 | | 0.06799 | 9.88083 | | 28 | |
| | | 15 | | 26 | | | 11 | | 26 25 |
| 33 | 9.81299 | | 9.93227 | | 0.06773 | 9.88072 | | 27 | 1 0.4 0.4 |
| | | 15 | | 25 | | | 11 | | 2 0.9 0.8 |
| 34 | 9.81314 | | 9.93252 | | 0.06748 | 9.88061 | | 26 | 3 1.3 1.3 |
| | | 14 | | 26 | | | 10 | | 4 1.7 1.7 |
| **35** | **9.81328** | | **9.93278** | | **0.06722** | **9.88051** | | **25** | 5 2.2 2.1 |
| | | 15 | | 25 | | | 11 | | 6 2.6 2.5 |
| 36 | 9.81343 | | 9.93303 | | 0.06697 | 9.88040 | | 24 | 7 3.0 2.9 |
| | | 15 | | 26 | | | 11 | | 8 3.5 3.3 |
| 37 | 9.81358 | | 9.93329 | | 0.06671 | 9.88029 | | 23 | 9 3.9 3.8 |
| | | 14 | | 25 | | | 11 | | 10 4.3 4.2 |
| 38 | 9.81372 | | 9.93354 | | 0.06646 | 9.88018 | | 22 | 20 8.7 8.3 |
| | | 15 | | 26 | | | 11 | | 30 13.0 12.5 |
| 39 | 9.81387 | | 9.93380 | | 0.06620 | 9.88007 | | 21 | 40 17.3 16.7 |
| | | 15 | | 26 | | | 11 | | 50 21.7 20.8 |
| **40** | **9.81402** | | **9.93406** | | **0.06594** | **9.87996** | | **20** | |
| | | 15 | | 25 | | | 11 | | |
| 41 | 9.81417 | | 9.93431 | | 0.06569 | 9.87985 | | 19 | |
| | | 14 | | 26 | | | 10 | | |
| 42 | 9.81431 | | 9.93457 | | 0.06543 | 9.87975 | | 18 | 15 14 |
| | | 15 | | 25 | | | 11 | | 1 0.3 0.2 |
| 43 | 9.81446 | | 9.93482 | | 0.06518 | 9.87964 | | 17 | 2 0.5 0.5 |
| | | 15 | | 26 | | | 11 | | 3 0.8 0.7 |
| 44 | 9.81461 | | 9.93508 | | 0.06492 | 9.87953 | | 16 | 4 1.0 0.9 |
| | | 14 | | 25 | | | 11 | | 5 1.3 1.2 |
| **45** | **9.81475** | | **9.93533** | | **0.06467** | **9.87942** | | **15** | 6 1.5 1.4 |
| | | 15 | | 26 | | | 11 | | 7 1.8 1.6 |
| 46 | 9.81490 | | 9.93559 | | 0.06441 | 9.87931 | | 14 | 8 2.0 1.9 |
| | | 15 | | 25 | | | 11 | | 9 2.3 2.1 |
| 47 | 9.81505 | | 9.93584 | | 0.06416 | 9.87920 | | 13 | 10 2.5 2.3 |
| | | 14 | | 26 | | | 11 | | 20 5.0 4.7 |
| 48 | 9.81519 | | 9.93610 | | 0.06390 | 9.87909 | | 12 | 30 7.5 7.0 |
| | | 15 | | 26 | | | 11 | | 40 10.0 9.3 |
| 49 | 9.81534 | | 9.93636 | | 0.06364 | 9.87898 | | 11 | 50 12.5 11.7 |
| | | 15 | | 25 | | | 11 | | |
| **50** | **9.81549** | | **9.93661** | | **0.06339** | **9.87887** | | **10** | |
| | | 14 | | 26 | | | 10 | | |
| 51 | 9.81563 | | 9.93687 | | 0.06313 | 9.87877 | | 9 | 10 11 |
| | | 15 | | 25 | | | 11 | | 1 0.2 0.2 |
| 52 | 9.81578 | | 9.93712 | | 0.06288 | 9.87866 | | 8 | 2 0.3 0.4 |
| | | 14 | | 26 | | | 11 | | 3 0.5 0.6 |
| 53 | 9.81592 | | 9.93738 | | 0.06262 | 9.87855 | | 7 | 4 0.7 0.7 |
| | | 15 | | 25 | | | 11 | | 5 0.8 0.9 |
| 54 | 9.81607 | | 9.93763 | | 0.06237 | 9.87844 | | 6 | 6 1.0 1.1 |
| | | 15 | | 26 | | | 11 | | 7 1.2 1.3 |
| **55** | **9.81622** | | **9.93789** | | **0.06211** | **9.87833** | | **5** | 8 1.3 1.5 |
| | | 14 | | 25 | | | 11 | | 9 1.5 1.7 |
| 56 | 9.81636 | | 9.93814 | | 0.06186 | 9.87822 | | 4 | 10 1.7 1.8 |
| | | 15 | | 26 | | | 11 | | 20 3.3 3.7 |
| 57 | 9.81651 | | 9.93840 | | 0.06160 | 9.87811 | | 3 | 30 5.0 5.5 |
| | | 14 | | 25 | | | 11 | | 40 6.7 7.3 |
| 58 | 9.81665 | | 9.93865 | | 0.06135 | 9.87800 | | 2 | 50 8.3 9.2 |
| | | 15 | | 26 | | | 11 | | |
| 59 | 9.81680 | | 9.93891 | | 0.06109 | 9.87789 | | 1 | |
| | | 14 | | 25 | | | 11 | | |
| **60** | **9.81694** | | **9.93916** | | **0.06084** | **9.87778** | | **0** | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.81694 | | 9.93916 | | 0.06084 | 9.87778 | | 60 | |
| | | 15 | | 26 | | | 11 | | |
| 1 | 9.81709 | | 9.93942 | | 0.06058 | 9.87767 | | 59 | |
| | | 14 | | 25 | | | 11 | | |
| 2 | 9.81723 | | 9.93967 | | 0.06033 | 9.87756 | | 58 | |
| | | 15 | | 26 | | | 11 | | 26 25 |
| 3 | 9.81738 | | 9.93993 | | 0.06007 | 9.87745 | | 57 | 1 0.4 0.4 |
| | | 14 | | 25 | | | 11 | | 2 0.9 0.8 |
| 4 | 9.81752 | | 9.94018 | | 0.05982 | 9.87734 | | 56 | 3 1.3 1.3 |
| | | 15 | | 26 | | | 11 | | 4 1.7 1.7 |
| 5 | 9.81767 | | 9.94044 | | 0.05956 | 9.87723 | | 55 | 5 2.2 2.1 |
| | | 14 | | 25 | | | 11 | | 6 2.6 2.5 |
| 6 | 9.81781 | | 9.94069 | | 0.05931 | 9.87712 | | 54 | 7 3.0 2.9 |
| | | 15 | | 26 | | | 11 | | 8 3.5 3.3 |
| 7 | 9.81796 | | 9.94095 | | 0.05905 | 9.87701 | | 53 | 9 3.9 3.8 |
| | | 14 | | 25 | | | 11 | | 10 4.3 4.2 |
| 8 | 9.81810 | | 9.94120 | | 0.05880 | 9.87690 | | 52 | 20 8.7 8.3 |
| | | 15 | | 26 | | | 11 | | 30 13.0 12.5 |
| 9 | 9.81825 | | 9.94146 | | 0.05854 | 9.87679 | | 51 | 40 17.3 16.7 |
| | | 14 | | 25 | | | 11 | | 50 21.7 20.8 |
| 10 | 9.81839 | | 9.94171 | | 0.05829 | 9.87668 | | 50 | |
| | | 15 | | 26 | | | 11 | | |
| 11 | 9.81854 | | 9.94197 | | 0.05803 | 9.87657 | | 49 | |
| | | 14 | | 25 | | | 11 | | 15 14 |
| 12 | 9.81868 | | 9.94222 | | 0.05778 | 9.87646 | | 48 | 1 0.3 0.2 |
| | | 14 | | 26 | | | 11 | | 2 0.5 0.5 |
| 13 | 9.81882 | | 9.94248 | | 0.05752 | 9.87635 | | 47 | 3 0.8 0.7 |
| | | 15 | | 25 | | | 11 | | 4 1.0 0.9 |
| 14 | 9.81897 | | 9.94273 | | 0.05727 | 9.87624 | | 46 | 5 1.3 1.2 |
| | | 14 | | 26 | | | 11 | | 6 1.5 1.4 |
| 15 | 9.81911 | | 9.94299 | | 0.05701 | 9.87613 | | 45 | 7 1.8 1.6 |
| | | 15 | | 25 | | | 12 | | 8 2.0 1.9 |
| 16 | 9.81926 | | 9.94324 | | 0.05676 | 9.87601 | | 44 | 9 2.3 2.1 |
| | | 14 | | 26 | | | 11 | | 10 2.5 2.3 |
| 17 | 9.81940 | | 9.94350 | | 0.05650 | 9.87590 | | 43 | 20 5.0 4.7 |
| | | 15 | | 25 | | | 11 | | 30 7.5 7.0 |
| 18 | 9.81955 | | 9.94375 | | 0.05625 | 9.87579 | | 42 | 40 10.0 9.3 |
| | | 14 | | 26 | | | 11 | | 50 12.5 11.7 |
| 19 | 9.81969 | | 9.94401 | | 0.05599 | 9.87568 | | 41 | |
| | | 14 | | 25 | | | 11 | | |
| 20 | 9.81983 | | 9.94426 | | 0.05574 | 9.87557 | | 40 | |
| | | 15 | | 26 | | | 11 | | |
| 21 | 9.81998 | | 9.94452 | | 0.05548 | 9.87546 | | 39 | 11 12 |
| | | 14 | | 25 | | | 11 | | 1 0.2 0.2 |
| 22 | 9.82012 | | 9.94477 | | 0.05523 | 9.87535 | | 38 | 2 0.4 0.4 |
| | | 14 | | 26 | | | 11 | | 3 0.6 0.6 |
| 23 | 9.82026 | | 9.94503 | | 0.05497 | 9.87524 | | 37 | 4 0.7 0.8 |
| | | 15 | | 25 | | | 11 | | 5 0.9 1.0 |
| 24 | 9.82041 | | 9.94528 | | 0.05472 | 9.87513 | | 36 | 6 1.1 1.2 |
| | | 14 | | 26 | | | 12 | | 7 1.3 1.4 |
| 25 | 9.82055 | | 9.94554 | | 0.05446 | 9.87501 | | 35 | 8 1.5 1.6 |
| | | 14 | | 25 | | | 11 | | 9 1.7 1.8 |
| 26 | 9.82069 | | 9.94579 | | 0.05421 | 9.87490 | | 34 | 10 1.8 2.0 |
| | | 15 | | 25 | | | 11 | | 20 3.7 4.0 |
| 27 | 9.82084 | | 9.94604 | | 0.05396 | 9.87479 | | 33 | 30 5.5 6.0 |
| | | 14 | | 26 | | | 11 | | 40 7.3 8.0 |
| 28 | 9.82098 | | 9.94630 | | 0.05370 | 9.87468 | | 32 | 50 9.2 10.0 |
| | | 14 | | 25 | | | 11 | | |
| 29 | 9.82112 | | 9.94655 | | 0.05345 | 9.87457 | | 31 | |
| | | 14 | | 26 | | | 11 | | |
| 30 | 9.82126 | | 9.94681 | | 0.05319 | 9.87446 | | 30 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.82126** | | **9.94681** | | **0.05319** | **9.87446** | | 30 | |
| | | 15 | | 25 | | | 12 | | |
| 31 | 9.82141 | | 9.94706 | | 0.05294 | 9.87434 | | 29 | |
| | | 14 | | 26 | | | 11 | | |
| 32 | 9.82155 | | 9.94732 | | 0.05268 | 9.87423 | | 28 | |
| | | 14 | | 25 | | | 11 | | 26 25 |
| 33 | 9.82169 | | 9.94757 | | 0.05243 | 9.87412 | | 27 | 1 0.4 0.4 |
| | | 15 | | 26 | | | 11 | | 2 0.9 0.8 |
| 34 | 9.82184 | | 9.94783 | | 0.05217 | 9.87401 | | 26 | 3 1.3 1.3 |
| | | 14 | | 25 | | | 11 | | 4 1.7 1.7 |
| **35** | **9.82198** | | **9.94808** | | **0.05192** | **9.87390** | | 25 | 5 2.2 2.1 |
| | | 14 | | 26 | | | 12 | | 6 2.6 2.5 |
| 36 | 9.82212 | | 9.94834 | | 0.05166 | 9.87378 | | 24 | 7 3.0 2.9 |
| | | 14 | | 25 | | | 11 | | 8 3.5 3.3 |
| 37 | 9.82226 | | 9.94859 | | 0.05141 | 9.87367 | | 23 | 9 3.9 3.8 |
| | | 14 | | 25 | | | 11 | | 10 4.3 4.2 |
| 38 | 9.82240 | | 9.94884 | | 0.05116 | 9.87356 | | 22 | 20 8.7 8.3 |
| | | 15 | | 26 | | | 11 | | 30 13.0 12.5 |
| 39 | 9.82255 | | 9.94910 | | 0.05090 | 9.87345 | | 21 | 40 17.3 16.7 |
| | | 14 | | 25 | | | 11 | | 50 21.7 20.8 |
| **40** | **9.82269** | | **9.94935** | | **0.05065** | **9.87334** | | 20 | |
| | | 14 | | 26 | | | 12 | | |
| 41 | 9.82283 | | 9.94961 | | 0.05039 | 9.87322 | | 19 | |
| | | 14 | | 25 | | | 11 | | 15 14 |
| 42 | 9.82297 | | 9.94986 | | 0.05014 | 9.87311 | | 18 | 1 0.3 0.2 |
| | | 14 | | 26 | | | 11 | | 2 0.5 0.5 |
| 43 | 9.82311 | | 9.95012 | | 0.04988 | 9.87300 | | 17 | 3 0.8 0.7 |
| | | 15 | | 25 | | | 12 | | 4 1.0 0.9 |
| 44 | 9.82326 | | 9.95037 | | 0.04963 | 9.87288 | | 16 | 5 1.3 1.2 |
| | | 14 | | 25 | | | 11 | | 6 1.5 1.4 |
| **45** | **9.82340** | | **9.95062** | | **0.04938** | **9.87277** | | 15 | 7 1.8 1.6 |
| | | 14 | | 26 | | | 11 | | 8 2.0 1.9 |
| 46 | 9.82354 | | 9.95088 | | 0.04912 | 9.87266 | | 14 | 9 2.3 2.1 |
| | | 14 | | 25 | | | 11 | | 10 2.5 2.3 |
| 47 | 9.82368 | | 9.95113 | | 0.04887 | 9.87255 | | 13 | 20 5.0 4.7 |
| | | 14 | | 26 | | | 12 | | 30 7.5 7.0 |
| 48 | 9.82382 | | 9.95139 | | 0.04861 | 9.87243 | | 12 | 40 10.0 9.3 |
| | | 14 | | 25 | | | 11 | | 50 12.5 11.7 |
| 49 | 9.82396 | | 9.95164 | | 0.04836 | 9.87232 | | 11 | |
| | | 14 | | 26 | | | 11 | | |
| **50** | **9.82410** | | **9.95190** | | **0.04810** | **9.87221** | | 10 | |
| | | 14 | | 25 | | | 12 | | |
| 51 | 9.82424 | | 9.95215 | | 0.04785 | 9.87209 | | 9 | 11 12 |
| | | 15 | | 25 | | | 11 | | 1 0.2 0.2 |
| 52 | 9.82439 | | 9.95240 | | 0.04760 | 9.87198 | | 8 | 2 0.4 0.4 |
| | | 14 | | 26 | | | 11 | | 3 0.6 0.6 |
| 53 | 9.82453 | | 9.95266 | | 0.04734 | 9.87187 | | 7 | 4 0.7 0.8 |
| | | 14 | | 25 | | | 12 | | 5 0.9 1.0 |
| 54 | 9.82467 | | 9.95291 | | 0.04709 | 9.87175 | | 6 | 6 1.1 1.2 |
| | | 14 | | 26 | | | 11 | | 7 1.3 1.4 |
| **55** | **9.82481** | | **9.95317** | | **0.04683** | **9.87164** | | 5 | 8 1.5 1.6 |
| | | 14 | | 25 | | | 11 | | 9 1.7 1.8 |
| 56 | 9.82495 | | 9.95342 | | 0.04658 | 9.87153 | | 4 | 10 1.8 2.0 |
| | | 14 | | 26 | | | 12 | | 20 3.7 4.0 |
| 57 | 9.82509 | | 9.95368 | | 0.04632 | 9.87141 | | 3 | 30 5.5 6.0 |
| | | 14 | | 25 | | | 11 | | 40 7.3 8.0 |
| 58 | 9.82523 | | 9.95393 | | 0.04607 | 9.87130 | | 2 | 50 9.2 10.0 |
| | | 14 | | 25 | | | 11 | | |
| 59 | 9.82537 | | 9.95418 | | 0.04582 | 9.87119 | | 1 | |
| | | 14 | | 26 | | | 12 | | |
| **60** | **9.82551** | | **9.95444** | | **0.04556** | **9.87107** | | 0 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 42°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.82551 | | 9.95444 | | 0.04556 | 9.87107 | | 60 | |
| | | 14 | | 25 | | | 11 | | |
| 1 | 9.82565 | | 9.95469 | | 0.04531 | 9.87096 | | 59 | |
| | | 14 | | 26 | | | 11 | | |
| 2 | 9.82579 | | 9.95495 | | 0.04505 | 9.87085 | | 58 | |
| | | 14 | | 25 | | | 12 | | 26 25 |
| 3 | 9.82593 | | 9.95520 | | 0.04480 | 9.87073 | | 57 | 1 0.4 0.4 |
| | | 14 | | 25 | | | 11 | | 2 0.9 0.8 |
| 4 | 9.82607 | | 9.95545 | | 0.04455 | 9 87062 | | 56 | 3 1.3 1.3 |
| | | 14 | | 26 | | | 12 | | 4 1.7 1.7 |
| 5 | 9.82621 | | 9.95571 | | 0.04429 | 9.87050 | | 55 | 5 2.2 2.1 |
| | | 14 | | 25 | | | 11 | | 6 2.6 2.5 |
| 6 | 9.82635 | | 9.95596 | | 0.04404 | 9.87039 | | 54 | 7 3.0 2.9 |
| | | 14 | | 26 | | | 11 | | 8 3.5 3.3 |
| 7 | 9.82649 | | 9.95622 | | 0.04378 | 9.87028 | | 53 | 9 3.9 3.8 |
| | | 14 | | 25 | | | 12 | | 10 4.3 4.2 |
| 8 | 9.82663 | | 9.95647 | | 0.04353 | 9.87016 | | 52 | 20 8.7 8.3 |
| | | 14 | | 25 | | | 11 | | 30 13.0 12.5 |
| 9 | 9.82677 | | 9.95672 | | 0.04328 | 9.87005 | | 51 | 40 17.3 16.7 |
| | | 14 | | 26 | | | 12 | | 50 21.7 20.8 |
| 10 | 9.82691 | | 9.95698 | | 0.04302 | 9.86993 | | 50 | |
| | | 14 | | 25 | | | 11 | | |
| 11 | 9.82705 | | 9.95723 | | 0.04277 | 9.86982 | | 49 | |
| | | 14 | | 25 | | | 12 | | |
| 12 | 9.82719 | | 9.95748 | | 0.04252 | 9.86970 | | 48 | 14 13 |
| | | 14 | | 26 | | | 11 | | 1 0.2 0.2 |
| 13 | 9.82733 | | 9.95774 | | 0.04226 | 9.86959 | | 47 | 2 0.5 0.4 |
| | | 14 | | 25 | | | 12 | | 3 0.7 0.7 |
| 14 | 9.82747 | | 9.95799 | | 0.04201 | 9.86947 | | 46 | 4 0.9 0.9 |
| | | 14 | | 26 | | | 11 | | 5 1.2 1.1 |
| 15 | 9.82761 | | 9.95825 | | 0.04175 | 9.86936 | | 45 | 6 1.4 1.3 |
| | | 14 | | 25 | | | 12 | | 7 1.6 1.5 |
| 16 | 9.82775 | | 9.95850 | | 0.04150 | 9.86924 | | 44 | 8 1.9 1.7 |
| | | 13 | | 25 | | | 11 | | 9 2.1 2.0 |
| 17 | 9.82788 | | 9.95875 | | 0.04125 | 9.86913 | | 43 | 10 2.3 2.2 |
| | | 14 | | 26 | | | 11 | | 20 4.7 4.3 |
| 18 | 9.82802 | | 9.95901 | | 0.04099 | 9.86902 | | 42 | 30 7.0 6.5 |
| | | 14 | | 25 | | | 12 | | 40 9.3 8.7 |
| 19 | 9.82816 | | 9.95926 | | 0.04074 | 9.86890 | | 41 | 50 11.7 10.8 |
| | | 14 | | 26 | | | 11 | | |
| 20 | 9.82830 | | 9.95952 | | 0.04048 | 9.86879 | | 40 | |
| | | 14 | | 25 | | | 12 | | |
| 21 | 9.82844 | | 9.95977 | | 0.04023 | 9.86867 | | 39 | 11 12 |
| | | 14 | | 25 | | | 12 | | 1 0.2 0.2 |
| 22 | 9.82858 | | 9.96002 | | 0.03998 | 9.86855 | | 38 | 2 0.4 0.4 |
| | | 14 | | 26 | | | 11 | | 3 0.6 0.6 |
| 23 | 9.82872 | | 9.96028 | | 0.03972 | 9.86844 | | 37 | 4 0.7 0.8 |
| | | 13 | | 25 | | | 12 | | 5 0.9 1.0 |
| 24 | 9.82885 | | 9.96053 | | 0.03947 | 9.86832 | | 36 | 6 1.1 1.2 |
| | | 14 | | 25 | | | 11 | | 7 1.3 1.4 |
| 25 | 9.82899 | | 9.96078 | | 0.03922 | 9.86821 | | 35 | 8 1.5 1.6 |
| | | 14 | | 26 | | | 12 | | 9 1.7 1.8 |
| 26 | 9.82913 | | 9.96104 | | 0.03896 | 9.86809 | | 34 | 10 1.8 2.0 |
| | | 14 | | 25 | | | 11 | | 20 3.7 4.0 |
| 27 | 9.82927 | | 9.96129 | | 0.03871 | 9.86798 | | 33 | 30 5.5 6.0 |
| | | 14 | | 26 | | | 12 | | 40 7.3 8.0 |
| 28 | 9.82941 | | 9.96155 | | 0.03845 | 9.86786 | | 32 | 50 9.2 10.0 |
| | | 14 | | 25 | | | 11 | | |
| 29 | 9.82955 | | 9.96180 | | 0.03820 | 9.86775 | | 31 | |
| | | 13 | | 25 | | | 12 | | |
| 30 | 9.82968 | | 9.96205 | | 0.03795 | 9.86763 | | 30 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.82968** | | **9.96205** | | **0.03795** | **9.86763** | | **30** | |
| | | 14 | | 26 | | | 11 | | |
| 31 | 9.82982 | | 9.96231 | | 0.03769 | 9.86752 | | 29 | |
| | | 14 | | 25 | | | 12 | | |
| 32 | 9.82996 | | 9.96256 | | 0.03744 | 9.86740 | | 28 | |
| | | 14 | | 25 | | | 12 | | 26 25 |
| 33 | 9.83010 | | 9.96281 | | 0.03719 | 9.86728 | | 27 | 1 0.4 0.4 |
| | | 13 | | 26 | | | 11 | | 2 0.9 0.8 |
| 34 | 9.83023 | | 9.96307 | | 0.03693 | 9.86717 | | 26 | 3 1.3 1.3 |
| | | 14 | | 25 | | | 12 | | 4 1.7 1.7 |
| **35** | **9.83037** | | **9.96332** | | **0.03668** | **9.86705** | | **25** | 5 2.2 2.1 |
| | | 14 | | 25 | | | 11 | | 6 2.6 2.5 |
| 36 | 9.83051 | | 9.96357 | | 0.03643 | 9.86694 | | 24 | 7 3.0 2.9 |
| | | 14 | | 26 | | | 12 | | 8 3.5 3.3 |
| 37 | 9.83065 | | 9.96383 | | 0.03617 | 9.86682 | | 23 | 9 3.9 3.8 |
| | | 13 | | 25 | | | 12 | | 10 4.3 4.2 |
| 38 | 9.83078 | | 9.96408 | | 0.03592 | 9.86670 | | 22 | 20 8.7 8.3 |
| | | 14 | | 25 | | | 11 | | 30 13.0 12.5 |
| 39 | 9.83092 | | 9.96433 | | 0.03567 | 9.86659 | | 21 | 40 17.3 16.7 |
| | | 14 | | 26 | | | 12 | | 50 21.7 20.8 |
| **40** | **9.83106** | | **9.96459** | | **0.03541** | **9.86647** | | **20** | |
| | | 14 | | 25 | | | 12 | | |
| 41 | 9.83120 | | 9.96484 | | 0.03516 | 9.86635 | | 19 | |
| | | 13 | | 26 | | | 11 | | |
| 42 | 9.83133 | | 9.96510 | | 0.03490 | 9.86624 | | 18 | 14 13 |
| | | 14 | | 25 | | | 12 | | 1 0.2 0.2 |
| 43 | 9.83147 | | 9.96535 | | 0.03465 | 9.86612 | | 17 | 2 0.5 0.4 |
| | | 14 | | 25 | | | 12 | | 3 0.7 0.7 |
| 44 | 9.83161 | | 9.96560 | | 0.03440 | 9.86600 | | 16 | 4 0.9 0.9 |
| | | 13 | | 26 | | | 11 | | 5 1.2 1.1 |
| **45** | **9.83174** | | **9.96586** | | **0.03414** | **9.86589** | | **15** | 6 1.4 1.3 |
| | | 14 | | 25 | | | 12 | | 7 1.6 1.5 |
| 46 | 9.83188 | | 9.96611 | | 0.03389 | 9.86577 | | 14 | 8 1.9 1.7 |
| | | 14 | | 25 | | | 12 | | 9 2.1 2.0 |
| 47 | 9.83202 | | 9.96636 | | 0.03364 | 9.86565 | | 13 | 10 2.3 2.2 |
| | | 13 | | 26 | | | 11 | | 20 4.7 4.3 |
| 48 | 9.83215 | | 9.96662 | | 0.03338 | 9.86554 | | 12 | 30 7.0 6.5 |
| | | 14 | | 25 | | | 12 | | 40 9.3 8.7 |
| 49 | 9.83229 | | 9.96687 | | 0.03313 | 9.86542 | | 11 | 50 11.7 10.8 |
| | | 13 | | 25 | | | 12 | | |
| **50** | **9.83242** | | **9.96712** | | **0.03288** | **9.86530** | | **10** | |
| | | 14 | | 26 | | | 12 | | |
| 51 | 9.83256 | | 9.96738 | | 0.03262 | 9.86518 | | 9 | 11 12 |
| | | 14 | | 25 | | | 11 | | 1 0.2 0.2 |
| 52 | 9.83270 | | 9.96763 | | 0.03237 | 9.86507 | | 8 | 2 0.4 0.4 |
| | | 13 | | 25 | | | 12 | | 3 0.6 0.6 |
| 53 | 9.83283 | | 9.96788 | | 0.03212 | 9.86495 | | 7 | 4 0.7 0.8 |
| | | 14 | | 26 | | | 12 | | 5 0.9 1.0 |
| 54 | 9.83297 | | 9.96814 | | 0.03186 | 9.86483 | | 6 | 6 1.1 1.2 |
| | | 13 | | 25 | | | 11 | | 7 1.3 1.4 |
| **55** | **9.83310** | | **9.96839** | | **0.03161** | **9.86472** | | **5** | 8 1.5 1.6 |
| | | 14 | | 25 | | | 12 | | 9 1.7 1.8 |
| 56 | 9.83324 | | 9.96864 | | 0.03136 | 9.86460 | | 4 | 10 1.8 2.0 |
| | | 14 | | 26 | | | 12 | | 20 3.7 4.0 |
| 57 | 9.83338 | | 9.96890 | | 0.03110 | 9.86448 | | 3 | 30 5.5 6.0 |
| | | 13 | | 25 | | | 12 | | 40 7.3 8.0 |
| 58 | 9.83351 | | 9.96915 | | 0.03085 | 9.86436 | | 2 | 50 9.2 10.0 |
| | | 14 | | 25 | | | 11 | | |
| 59 | 9.83365 | | 9.96940 | | 0.03060 | 9.86425 | | 1 | |
| | | 13 | | 26 | | | 12 | | |
| **60** | **9.83378** | | **9.96966** | | **0.03034** | **9.86413** | | **0** | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

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| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 9.83378 | | 9.96966 | | 0.03034 | 9.86413 | | 60 | |
| | | 14 | | 25 | | | 12 | | |
| 1 | 9.83392 | | 9.96991 | | 0.03009 | 9.86401 | | 59 | |
| | | 13 | | 25 | | | 12 | | |
| 2 | 9.83405 | | 9.97016 | | 0.02984 | 9.86389 | | 58 | |
| | | 14 | | 26 | | | 12 | | 26 25 |
| 3 | 9.83419 | | 9.97042 | | 0.02958 | 9.86377 | | 57 | 1 0.4 0.4 |
| | | 13 | | 25 | | | 11 | | 2 0.9 0.8 |
| 4 | 9.83432 | | 9.97067 | | 0.02933 | 9.86366 | | 56 | 3 1.3 1.3 |
| | | 14 | | 25 | | | 12 | | 4 1.7 1.7 |
| 5 | 9.83446 | | 9.97092 | | 0.02908 | 9.86354 | | 55 | 5 2.2 2.1 |
| | | 13 | | 26 | | | 12 | | 6 2.6 2.5 |
| 6 | 9.83459 | | 9.97118 | | 0.02882 | 9.86342 | | 54 | 7 3.0 2.9 |
| | | 14 | | 25 | | | 12 | | 8 3.5 3.3 |
| 7 | 9.83473 | | 9.97143 | | 0.02857 | 9.86330 | | 53 | 9 3.9 3.8 |
| | | 13 | | 25 | | | 12 | | 10 4.3 4.2 |
| 8 | 9.83486 | | 9.97168 | | 0.02832 | 9.86318 | | 52 | 20 8.7 8.3 |
| | | 14 | | 25 | | | 12 | | 30 13.0 12.5 |
| 9 | 9.83500 | | 9.97193 | | 0.02807 | 9.86306 | | 51 | 40 17.3 16.7 |
| | | 13 | | 26 | | | 11 | | 50 21.7 20.8 |
| 10 | 9.83513 | | 9.97219 | | 0.02781 | 9.86295 | | 50 | |
| | | 14 | | 25 | | | 12 | | |
| 11 | 9.83527 | | 9.97244 | | 0.02756 | 9.86283 | | 49 | |
| | | 13 | | 25 | | | 12 | | |
| 12 | 9.83540 | | 9.97269 | | 0.02731 | 9.86271 | | 48 | 14 13 |
| | | 14 | | 26 | | | 12 | | 1 0.2 0.2 |
| 13 | 9.83554 | | 9.97295 | | 0.02705 | 9.86259 | | 47 | 2 0.5 0.4 |
| | | 13 | | 25 | | | 12 | | 3 0.7 0.7 |
| 14 | 9.83567 | | 9.97320 | | 0.02680 | 9.86247 | | 46 | 4 0.9 0.9 |
| | | 14 | | 25 | | | 12 | | 5 1.2 1.1 |
| 15 | 9.83581 | | 9.97345 | | 0.02655 | 9.86235 | | 45 | 6 1.4 1.3 |
| | | 13 | | 26 | | | 12 | | 7 1.6 1.5 |
| 16 | 9.83594 | | 9.97371 | | 0.02629 | 9.86223 | | 44 | 8 1.9 1.7 |
| | | 14 | | 25 | | | 12 | | 9 2.1 2.0 |
| 17 | 9.83608 | | 9.97396 | | 0.02604 | 9.86211 | | 43 | 10 2.3 2.2 |
| | | 13 | | 25 | | | 11 | | 20 4.7 4.3 |
| 18 | 9.83621 | | 9.97421 | | 0.02579 | 9.86200 | | 42 | 30 7.0 6.5 |
| | | 13 | | 26 | | | 12 | | 40 9.3 8.7 |
| 19 | 9.83634 | | 9.97447 | | 0.02553 | 9.86188 | | 41 | 50 11.7 10.8 |
| | | 14 | | 25 | | | 12 | | |
| 20 | 9.83648 | | 9.97472 | | 0.02528 | 9.86176 | | 40 | |
| | | 13 | | 25 | | | 12 | | |
| 21 | 9.83661 | | 9.97497 | | 0.02503 | 9.86164 | | 39 | 11 12 |
| | | 13 | | 26 | | | 12 | | 1 0.2 0.2 |
| 22 | 9.83674 | | 9.97523 | | 0.02477 | 9.86152 | | 38 | 2 0.4 0.4 |
| | | 14 | | 25 | | | 12 | | 3 0.6 0.6 |
| 23 | 9.83688 | | 9.97548 | | 0.02452 | 9.86140 | | 37 | 4 0.7 0.8 |
| | | 13 | | 25 | | | 12 | | 5 0.9 1.0 |
| 24 | 9.83701 | | 9.97573 | | 0.02427 | 9.86128 | | 36 | 6 1.1 1.2 |
| | | 14 | | 25 | | | 12 | | 7 1.3 1.4 |
| 25 | 9.83715 | | 9.97598 | | 0.02402 | 9.86116 | | 35 | 8 1.5 1.6 |
| | | 13 | | 26 | | | 12 | | 9 1.7 1.8 |
| 26 | 9.83728 | | 9.97624 | | 0.02376 | 9.86104 | | 34 | 10 1.8 2.0 |
| | | 13 | | 25 | | | 12 | | 20 3.7 4.0 |
| 27 | 9.83741 | | 9.97649 | | 0.02351 | 9.86092 | | 33 | 30 5.5 6.0 |
| | | 14 | | 25 | | | 12 | | 40 7.3 8.0 |
| 28 | 9.83755 | | 9.97674 | | 0.02326 | 9.86080 | | 32 | 50 9.2 10.0 |
| | | 13 | | 26 | | | 12 | | |
| 29 | 9.83768 | | 9.97700 | | 0.02300 | 9.86068 | | 31 | |
| | | 13 | | 25 | | | 12 | | |
| 30 | 9.83781 | | 9.97725 | | 0.02275 | 9.86056 | | 30 | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 46°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.83781** | | **9.97725** | | **0.02275** | **9.86056** | | **30** | |
| | | 14 | | 25 | | | 12 | | |
| 31 | 9.83795 | | 9.97750 | | 0.02250 | 9.86044 | | 29 | |
| | | 13 | | 26 | | | 12 | | |
| 32 | 9.83808 | | 9.97776 | | 0.02224 | 9.86032 | | 28 | |
| | | 13 | | 25 | | | 12 | | 26 25 |
| 33 | 9.83821 | | 9.97801 | | 0.02199 | 9.86020 | | 27 | 1 0.4 0.4 |
| | | 13 | | 25 | | | 12 | | 2 0.9 0.8 |
| 34 | 9.83834 | | 9.97826 | | 0.02174 | 9.86008 | | 26 | 3 1.3 1.3 |
| | | 14 | | 25 | | | 12 | | 4 1.7 1.7 |
| **35** | **9.83848** | | **9.97851** | | **0.02149** | **9.85996** | | **25** | 5 2.2 2.1 |
| | | 13 | | 26 | | | 12 | | 6 2.6 2.5 |
| 36 | 9.83861 | | 9.97877 | | 0.02123 | 9.85984 | | 24 | 7 3.0 2.9 |
| | | 13 | | 25 | | | 12 | | 8 3.5 3.3 |
| 37 | 9.83874 | | 9.97902 | | 0.02098 | 9.85972 | | 23 | 9 3.9 3.8 |
| | | 13 | | 25 | | | 12 | | 10 4.3 4.2 |
| 38 | 9.83887 | | 9.97927 | | 0.02073 | 9.85960 | | 22 | 20 8.7 8.3 |
| | | 14 | | 26 | | | 12 | | 30 13.0 12.5 |
| 39 | 9.83901 | | 9.97953 | | 0.02047 | 9.85948 | | 21 | 40 17.3 16.7 |
| | | 13 | | 25 | | | 12 | | 50 21.7 20.8 |
| **40** | **9.83914** | | **9.97978** | | **0.02022** | **9.85936** | | **20** | |
| | | 13 | | 25 | | | 12 | | |
| 41 | 9.83927 | | 9.98003 | | 0.01997 | 9.85924 | | 19 | |
| | | 13 | | 26 | | | 12 | | |
| 42 | 9.83940 | | 9.98029 | | 0.01971 | 9.85912 | | 18 | 14 13 |
| | | 14 | | 25 | | | 12 | | 1 0.2 0.2 |
| 43 | 9.83954 | | 9.98054 | | 0.01946 | 9.85900 | | 17 | 2 0.5 0.4 |
| | | 13 | | 25 | | | 12 | | 3 0.7 0.7 |
| 44 | 9.83967 | | 9.98079 | | 0.01921 | 9.85888 | | 16 | 4 0.9 0.9 |
| | | 13 | | 25 | | | 12 | | 5 1.2 1.1 |
| **45** | **9.83980** | | **9.98104** | | **0.01896** | **9.85876** | | **15** | 6 1.4 1.3 |
| | | 13 | | 26 | | | 12 | | 7 1.6 1.5 |
| 46 | 9.83993 | | 9.98130 | | 0.01870 | 9.85864 | | 14 | 8 1.9 1.7 |
| | | 13 | | 25 | | | 13 | | 9 2.1 2.0 |
| 47 | 9.84006 | | 9.98155 | | 0.01845 | 9.85851 | | 13 | 10 2.3 2.2 |
| | | 14 | | 25 | | | 12 | | 20 4.7 4.3 |
| 48 | 9.84020 | | 9.98180 | | 0.01820 | 9.85839 | | 12 | 30 7.0 6.5 |
| | | 13 | | 26 | | | 12 | | 40 9.3 8.7 |
| 49 | 9.84033 | | 9.98206 | | 0.01794 | 9.85827 | | 11 | 50 11.7 10.8 |
| | | 13 | | 25 | | | 12 | | |
| **50** | **9.84046** | | **9.98231** | | **0.01769** | **9.85815** | | **10** | |
| | | 13 | | 25 | | | 12 | | |
| 51 | 9.84059 | | 9.98256 | | 0.01744 | 9.85803 | | 9 | 12 |
| | | 13 | | 25 | | | 12 | | 1 0.2 |
| 52 | 9.84072 | | 9.98281 | | 0.01719 | 9.85791 | | 8 | 2 0.4 |
| | | 13 | | 26 | | | 12 | | 3 0.6 |
| 53 | 9.84085 | | 9.98307 | | 0.01693 | 9.85779 | | 7 | 4 0.8 |
| | | 13 | | 25 | | | 13 | | 5 1.0 |
| 54 | 9.84098 | | 9.98332 | | 0.01668 | 9.85766 | | 6 | 6 1.2 |
| | | 14 | | 25 | | | 12 | | 7 1.4 |
| **55** | **9.84112** | | **9.98357** | | **0.01643** | **9.85754** | | **5** | 8 1.6 |
| | | 13 | | 26 | | | 12 | | 9 1.8 |
| 56 | 9.84125 | | 9.98383 | | 0.01617 | 9.85742 | | 4 | 10 2.0 |
| | | 13 | | 25 | | | 12 | | 20 4.0 |
| 57 | 9.84138 | | 9.98408 | | 0.01592 | 9.85730 | | 3 | 30 6.0 |
| | | 13 | | 25 | | | 12 | | 40 8.0 |
| 58 | 9.84151 | | 9.98433 | | 0.01567 | 9.85718 | | 2 | 50 10.0 |
| | | 13 | | 25 | | | 12 | | |
| 59 | 9.84164 | | 9.98458 | | 0.01542 | 9.85706 | | 1 | |
| | | 13 | | 26 | | | 13 | | |
| **60** | **9.84177** | | **9.98484** | | **0.01516** | **9.85693** | | **0** | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

# 44°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9.84177 | | 9.98484 | | 0.01516 | 9.85693 | | 60 |
| | | 13 | | 25 | | | 12 | |
| 1 | 9.84190 | | 9.98509 | | 0.01491 | 9.85681 | | 59 |
| | | 13 | | 25 | | | 12 | |
| 2 | 9.84203 | | 9.98534 | | 0.01466 | 9.85669 | | 58 |
| | | 13 | | 26 | | | 12 | |
| 3 | 9.84216 | | 9.98560 | | 0.01440 | 9.85657 | | 57 |
| | | 13 | | 25 | | | 12 | |
| 4 | 9.84229 | | 9.98585 | | 0.01415 | 9.85645 | | 56 |
| | | 13 | | 25 | | | 13 | |
| 5 | 9.84242 | | 9.98610 | | 0.01390 | 9.85632 | | 55 |
| | | 13 | | 25 | | | 12 | |
| 6 | 9.84255 | | 9.98635 | | 0.01365 | 9.85620 | | 54 |
| | | 14 | | 26 | | | 12 | |
| 7 | 9.84269 | | 9.98661 | | 0.01339 | 9.85608 | | 53 |
| | | 13 | | 25 | | | 12 | |
| 8 | 9.84282 | | 9.98686 | | 0.01314 | 9.85596 | | 52 |
| | | 13 | | 25 | | | 13 | |
| 9 | 9.84295 | | 9.98711 | | 0.01289 | 9.85583 | | 51 |
| | | 13 | | 26 | | | 12 | |
| 10 | 9.84308 | | 9.98737 | | 0.01263 | 9.85571 | | 50 |
| | | 13 | | 25 | | | 12 | |
| 11 | 9.84321 | | 9.98762 | | 0.01238 | 9.85559 | | 49 |
| | | 13 | | 25 | | | 12 | |
| 12 | 9.84334 | | 9.98787 | | 0.01213 | 9.85547 | | 48 |
| | | 13 | | 25 | | | 13 | |
| 13 | 9.84347 | | 9.98812 | | 0.01188 | 9.85534 | | 47 |
| | | 13 | | 26 | | | 12 | |
| 14 | 9.84360 | | 9.98838 | | 0.01162 | 9.85522 | | 46 |
| | | 13 | | 25 | | | 12 | |
| 15 | 9.84373 | | 9.98863 | | 0.01137 | 9.85510 | | 45 |
| | | 12 | | 25 | | | 13 | |
| 16 | 9.84385 | | 9.98888 | | 0.01112 | 9.85497 | | 44 |
| | | 13 | | 25 | | | 12 | |
| 17 | 9.84398 | | 9.98913 | | 0.01087 | 9.85485 | | 43 |
| | | 13 | | 26 | | | 12 | |
| 18 | 9.84411 | | 9.98939 | | 0.01061 | 9.85473 | | 42 |
| | | 13 | | 25 | | | 13 | |
| 19 | 9.84424 | | 9.98964 | | 0.01036 | 9.85460 | | 41 |
| | | 13 | | 25 | | | 12 | |
| 20 | 9.84437 | | 9.98989 | | 0.01011 | 9.85448 | | 40 |
| | | 13 | | 26 | | | 12 | |
| 21 | 9.84450 | | 9.99015 | | 0.00985 | 9.85436 | | 39 |
| | | 13 | | 25 | | | 13 | |
| 22 | 9.84463 | | 9.99040 | | 0.00960 | 9.85423 | | 38 |
| | | 13 | | 25 | | | 12 | |
| 23 | 9.84476 | | 9.99065 | | 0.00935 | 9.85411 | | 37 |
| | | 13 | | 25 | | | 12 | |
| 24 | 9.84489 | | 9.99090 | | 0.00910 | 9.85399 | | 36 |
| | | 13 | | 26 | | | 13 | |
| 25 | 9.84502 | | 9.99116 | | 0.00884 | 9.85386 | | 35 |
| | | 13 | | 25 | | | 12 | |
| 26 | 9.84515 | | 9.99141 | | 0.00859 | 9.85374 | | 34 |
| | | 13 | | 25 | | | 13 | |
| 27 | 9.84528 | | 9.99166 | | 0.00834 | 9.85361 | | 33 |
| | | 12 | | 25 | | | 12 | |
| 28 | 9.84540 | | 9.99191 | | 0.00809 | 9.85349 | | 32 |
| | | 13 | | 26 | | | 12 | |
| 29 | 9.84553 | | 9.99217 | | 0.00783 | 9.85337 | | 31 |
| | | 13 | | 25 | | | 13 | |
| 30 | 9.84566 | | 9.99242 | | 0.00758 | 9.85324 | | 30 |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. |

PP. Seconds

| | 26 | 25 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.9 | 0.8 |
| 3 | 1.3 | 1.3 |
| 4 | 1.7 | 1.7 |
| 5 | 2.2 | 2.1 |
| 6 | 2.6 | 2.5 |
| 7 | 3.0 | 2.9 |
| 8 | 3.5 | 3.3 |
| 9 | 3.9 | 3.8 |
| 10 | 4.3 | 4.2 |
| 20 | 8.7 | 8.3 |
| 30 | 13.0 | 12.5 |
| 40 | 17.3 | 16.7 |
| 50 | 21.7 | 20.8 |

| | 14 | 13 |
|---|---|---|
| 1 | 0.2 | 0.2 |
| 2 | 0.5 | 0.4 |
| 3 | 0.7 | 0.7 |
| 4 | 0.9 | 0.9 |
| 5 | 1.2 | 1.1 |
| 6 | 1.4 | 1.3 |
| 7 | 1.6 | 1.5 |
| 8 | 1.9 | 1.7 |
| 9 | 2.1 | 2.0 |
| 10 | 2.3 | 2.2 |
| 20 | 4.7 | 4.3 |
| 30 | 7.0 | 6.5 |
| 40 | 9.3 | 8.7 |
| 50 | 11.7 | 10.8 |

| | 12 |
|---|---|
| 1 | 0.2 |
| 2 | 0.4 |
| 3 | 0.6 |
| 4 | 0.8 |
| 5 | 1.0 |
| 6 | 1.2 |
| 7 | 1.4 |
| 8 | 1.6 |
| 9 | 1.8 |
| 10 | 2.0 |
| 20 | 4.0 |
| 30 | 6.0 |
| 40 | 8.0 |
| 50 | 10.0 |

PP.

# 45°

| Min. | Sine | d | Tang. | d | Cotang. | Cosine | d | ↑ | PP. Seconds |
|---|---|---|---|---|---|---|---|---|---|
| **30** | **9.84566** | | **9.99242** | | **0.00758** | **9.85324** | | **30** | |
| | | 13 | | 25 | | | 12 | | |
| 31 | 9.84579 | | 9.99267 | | 0.00733 | 9.85312 | | 29 | |
| 32 | 9.84592 | 13 | 9.99293 | 26 | 0.00707 | 9.85299 | 13 | 28 | |
| 33 | 9.84605 | 13 | 9.99318 | 25 | 0.00682 | 9.85287 | 12 | 27 | |
| 34 | 9.84618 | 13 | 9.99343 | 25 | 0.00657 | 9.85274 | 13 | 26 | |
| | | 12 | | 25 | | | 12 | | |
| **35** | **9.84630** | | **9.99368** | | **0.00632** | **9.85262** | | **25** | |
| | | 13 | | 26 | | | 12 | | |
| 36 | 9.84643 | | 9.99394 | | 0.00606 | 9.85250 | | 24 | |
| 37 | 9.84656 | 13 | 9.99419 | 25 | 0.00581 | 9.85237 | 13 | 23 | |
| 38 | 9.84669 | 13 | 9.99444 | 25 | 0.00556 | 9.85225 | 12 | 22 | |
| 39 | 9.84682 | 13 | 9.99469 | 25 | 0.00531 | 9.85212 | 13 | 21 | |
| | | 12 | | 26 | | | 12 | | |
| **40** | **9.84694** | | **9.99495** | | **0.00505** | **9.85200** | | **20** | |
| | | 13 | | 25 | | | 13 | | |
| 41 | 9.84707 | | 9.99520 | | 0.00480 | 9.85187 | | 19 | |
| 42 | 9.84720 | 13 | 9.99545 | 25 | 0.00455 | 9.85175 | 12 | 18 | |
| 43 | 9.84733 | 13 | 9.99570 | 25 | 0.00430 | 9.85162 | 13 | 17 | |
| 44 | 9.84745 | 12 | 9.99596 | 26 | 0.00404 | 9.85150 | 12 | 16 | |
| | | 13 | | 25 | | | 13 | | |
| **45** | **9.84758** | | **9.99621** | | **0.00379** | **9.85137** | | **15** | |
| | | 13 | | 25 | | | 12 | | |
| 46 | 9.84771 | | 9.99646 | | 0.00354 | 9.85125 | | 14 | |
| 47 | 9.84784 | 13 | 9.99672 | 26 | 0.00328 | 9.85112 | 13 | 13 | |
| 48 | 9.84796 | 12 | 9.99697 | 25 | 0.00303 | 9.85100 | 12 | 12 | |
| 49 | 9.84809 | 13 | 9.99722 | 25 | 0.00278 | 9.85087 | 13 | 11 | |
| | | 13 | | 25 | | | 13 | | |
| **50** | **9.84822** | | **9.99747** | | **0.00253** | **9.85074** | | **10** | |
| | | 13 | | 26 | | | 12 | | |
| 51 | 9.84835 | | 9.99773 | | 0.00227 | 9.85062 | | 9 | |
| 52 | 9.84847 | 12 | 9.99798 | 25 | 0.00202 | 9.85049 | 13 | 8 | |
| 53 | 9.84860 | 13 | 9.99823 | 25 | 0.00177 | 9.85037 | 12 | 7 | |
| 54 | 9.84873 | 13 | 9.99848 | 25 | 0.00152 | 9.85024 | 13 | 6 | |
| | | 12 | | 26 | | | 12 | | |
| **55** | **9.84885** | | **9.99874** | | **0.00126** | **9.85012** | | **5** | |
| | | 13 | | 25 | | | 13 | | |
| 56 | 9.84898 | | 9.99899 | | 0.00101 | 9.84999 | | 4 | |
| 57 | 9.84911 | 13 | 9.99924 | 25 | 0.00076 | 9.84986 | 13 | 3 | |
| 58 | 9.84923 | 12 | 9.99949 | 25 | 0.00051 | 9.84974 | 12 | 2 | |
| 59 | 9.84936 | 13 | 9.99975 | 26 | 0.00025 | 9.84961 | 13 | 1 | |
| | | 13 | | 25 | | | 12 | | |
| **60** | **9.84949** | | **0.00000** | | **0.00000** | **9.84949** | | **0** | |
| | Cosine | d | Cotang. | d | Tang. | Sine | d | Min. | PP. |

| | 26 | 25 |
|---|---|---|
| 1 | 0.4 | 0.4 |
| 2 | 0.9 | 0.8 |
| 3 | 1.3 | 1.3 |
| 4 | 1.7 | 1.7 |
| 5 | 2.2 | 2.1 |
| 6 | 2.6 | 2.5 |
| 7 | 3.0 | 2.9 |
| 8 | 3.5 | 3.3 |
| 9 | 3.9 | 3.8 |
| 10 | 4.3 | 4.2 |
| 20 | 8.7 | 8.3 |
| 30 | 13.0 | 12.5 |
| 40 | 17.3 | 16.7 |
| 50 | 21.7 | 20.8 |

| | 13 | 12 |
|---|---|---|
| 1 | 0.2 | 0.2 |
| 2 | 0.4 | 0.4 |
| 3 | 0.7 | 0.6 |
| 4 | 0.9 | 0.8 |
| 5 | 1.1 | 1.0 |
| 6 | 1.3 | 1.2 |
| 7 | 1.5 | 1.4 |
| 8 | 1.7 | 1.6 |
| 9 | 2.0 | 1.8 |
| 10 | 2.2 | 2.0 |
| 20 | 4.3 | 4.0 |
| 30 | 6.5 | 6.0 |
| 40 | 8.7 | 8.0 |
| 50 | 10.8 | 10.0 |

| | 0° | | 1° | | 2° | | 3° | | 4° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | sin | cos | sin | cos | sin | cos | sin | cos | sin | cos | ′ |
| **0** | **0000** | **1.000** | **0175** | **9998** | **0349** | **9994** | **0523** | **9986** | **0698** | **9976** | **60** |
| 1 | 0003 | 1.000 | 0177 | 9998 | 0352 | 9994 | 0526 | 9986 | 0700 | 9975 | 59 |
| 2 | 0006 | 1.000 | 0180 | 9998 | 0355 | 9994 | 0529 | 9986 | 0703 | 9975 | 58 |
| 3 | 0009 | 1.000 | 0183 | 9998 | 0358 | 9994 | 0532 | 9986 | 0706 | 9975 | 57 |
| 4 | 0012 | 1.000 | 0186 | 9998 | 0361 | 9993 | 0535 | 9986 | 0709 | 9975 | 56 |
| **5** | **0015** | **1.000** | **0189** | **9998** | **0364** | **9993** | **0538** | **9986** | **0712** | **9975** | **55** |
| 6 | 0017 | 1.000 | 0192 | 9998 | 0366 | 9993 | 0541 | 9985 | 0715 | 9974 | 54 |
| 7 | 0020 | 1.000 | 0195 | 9998 | 0369 | 9993 | 0544 | 9985 | 0718 | 9974 | 53 |
| 8 | 0023 | 1.000 | 0198 | 9998 | 0372 | 9993 | 0547 | 9985 | 0721 | 9974 | 52 |
| 9 | 0026 | 1.000 | 0201 | 9998 | 0375 | 9993 | 0550 | 9985 | 0724 | 9974 | 51 |
| **10** | **0029** | **1.000** | **0204** | **9998** | **0378** | **9993** | **0552** | **9985** | **0727** | **9974** | **50** |
| 11 | 0032 | 1.000 | 0207 | 9998 | 0381 | 9993 | 0555 | 9985 | 0729 | 9973 | 49 |
| 12 | 0035 | 1.000 | 0209 | 9998 | 0384 | 9993 | 0558 | 9984 | 0732 | 9973 | 48 |
| 13 | 0038 | 1.000 | 0212 | 9998 | 0387 | 9993 | 0561 | 9984 | 0735 | 9973 | 47 |
| 14 | 0041 | 1.000 | 0215 | 9998 | 0390 | 9992 | 0564 | 9984 | 0738 | 9973 | 46 |
| **15** | **0044** | **1.000** | **0218** | **9998** | **0393** | **9992** | **0567** | **9984** | **0741** | **9973** | **45** |
| 16 | 0047 | 1.000 | 0221 | 9998 | 0396 | 9992 | 0570 | 9984 | 0744 | 9972 | 44 |
| 17 | 0049 | 1.000 | 0224 | 9997 | 0398 | 9992 | 0573 | 9984 | 0747 | 9972 | 43 |
| 18 | 0052 | 1.000 | 0227 | 9997 | 0401 | 9992 | 0576 | 9983 | 0750 | 9972 | 42 |
| 19 | 0055 | 1.000 | 0230 | 9997 | 0404 | 9992 | 0579 | 9983 | 0753 | 9972 | 41 |
| **20** | **0058** | **1.000** | **0233** | **9997** | **0407** | **9992** | **0581** | **9983** | **0756** | **9971** | **40** |
| 21 | 0061 | 1.000 | 0236 | 9997 | 0410 | 9992 | 0584 | 9983 | 0758 | 9971 | 39 |
| 22 | 0064 | 1.000 | 0239 | 9997 | 0413 | 9991 | 0587 | 9983 | 0761 | 9971 | 38 |
| 23 | 0067 | 1.000 | 0241 | 9997 | 0416 | 9991 | 0590 | 9983 | 0764 | 9971 | 37 |
| 24 | 0070 | 1.000 | 0244 | 9997 | 0419 | 9991 | 0593 | 9982 | 0767 | 9971 | 36 |
| **25** | **0073** | **1.000** | **0247** | **9997** | **0422** | **9991** | **0596** | **9982** | **0770** | **9970** | **35** |
| 26 | 0076 | 1.000 | 0250 | 9997 | 0425 | 9991 | 0599 | 9982 | 0773 | 9970 | 34 |
| 27 | 0079 | 1.000 | 0253 | 9997 | 0427 | 9991 | 0602 | 9982 | 0776 | 9970 | 33 |
| 28 | 0081 | 1.000 | 0256 | 9997 | 0430 | 9991 | 0605 | 9982 | 0779 | 9970 | 32 |
| 29 | 0084 | 1.000 | 0259 | 9997 | 0433 | 9991 | 0608 | 9982 | 0782 | 9969 | 31 |
| **30** | **0087** | **1.000** | **0262** | **9997** | **0436** | **9990** | **0610** | **9981** | **0785** | **9969** | **30** |
| 31 | 0090 | 1.000 | 0265 | 9996 | 0439 | 9990 | 0613 | 9981 | 0787 | 9969 | 29 |
| 32 | 0093 | 1.000 | 0268 | 9996 | 0442 | 9990 | 0616 | 9981 | 0790 | 9969 | 28 |
| 33 | 0096 | 1.000 | 0270 | 9996 | 0445 | 9990 | 0619 | 9981 | 0793 | 9968 | 27 |
| 34 | 0099 | 1.000 | 0273 | 9996 | 0448 | 9990 | 0622 | 9981 | 0796 | 9968 | 26 |
| **35** | **0102** | **9999** | **0276** | **9996** | **0451** | **9990** | **0625** | **9980** | **0799** | **9968** | **25** |
| 36 | 0105 | 9999 | 0279 | 9996 | 0454 | 9990 | 0628 | 9980 | 0802 | 9968 | 24 |
| 37 | 0108 | 9999 | 0282 | 9996 | 0457 | 9990 | 0631 | 9980 | 0805 | 9968 | 23 |
| 38 | 0111 | 9999 | 0285 | 9996 | 0459 | 9989 | 0634 | 9980 | 0808 | 9967 | 22 |
| 39 | 0113 | 9999 | 0288 | 9996 | 0462 | 9989 | 0637 | 9980 | 0811 | 9967 | 21 |
| **40** | **0116** | **9999** | **0291** | **9996** | **0465** | **9989** | **0640** | **9980** | **0814** | **9967** | **20** |
| 41 | 0119 | 9999 | 0294 | 9996 | 0468 | 9989 | 0642 | 9979 | 0816 | 9967 | 19 |
| 42 | 0122 | 9999 | 0297 | 9996 | 0471 | 9989 | 0645 | 9979 | 0819 | 9966 | 18 |
| 43 | 0125 | 9999 | 0300 | 9996 | 0474 | 9989 | 0648 | 9979 | 0822 | 9966 | 17 |
| 44 | 0128 | 9999 | 0302 | 9995 | 0477 | 9989 | 0651 | 9979 | 0825 | 9966 | 16 |
| **45** | **0131** | **9999** | **0305** | **9995** | **0480** | **9988** | **0654** | **9979** | **0828** | **9966** | **15** |
| 46 | 0134 | 9999 | 0308 | 9995 | 0483 | 9988 | 0657 | 9978 | 0831 | 9965 | 14 |
| 47 | 0137 | 9999 | 0311 | 9995 | 0486 | 9988 | 0660 | 9978 | 0834 | 9965 | 13 |
| 48 | 0140 | 9999 | 0314 | 9995 | 0488 | 9988 | 0663 | 9978 | 0837 | 9965 | 12 |
| 49 | 0143 | 9999 | 0317 | 9995 | 0491 | 9988 | 0666 | 9978 | 0840 | 9965 | 11 |
| **50** | **0145** | **9999** | **0320** | **9995** | **0494** | **9988** | **0669** | **9978** | **0843** | **9964** | **10** |
| 51 | 0148 | 9999 | 0323 | 9995 | 0497 | 9988 | 0671 | 9977 | 0845 | 9964 | 9 |
| 52 | 0151 | 9999 | 0326 | 9995 | 0500 | 9987 | 0674 | 9977 | 0848 | 9964 | 8 |
| 53 | 0154 | 9999 | 0329 | 9995 | 0503 | 9987 | 0677 | 9977 | 0851 | 9964 | 7 |
| 54 | 0157 | 9999 | 0332 | 9995 | 0506 | 9987 | 0680 | 9977 | 0854 | 9963 | 6 |
| **55** | **0160** | **9999** | **0334** | **9994** | **0509** | **9987** | **0683** | **9977** | **0857** | **9963** | **5** |
| 56 | 0163 | 9999 | 0337 | 9994 | 0512 | 9987 | 0686 | 9976 | 0860 | 9963 | 4 |
| 57 | 0166 | 9999 | 0340 | 9994 | 0515 | 9987 | 0689 | 9976 | 0863 | 9963 | 3 |
| 58 | 0169 | 9999 | 0343 | 9994 | 0518 | 9987 | 0692 | 9976 | 0866 | 9962 | 2 |
| 59 | 0172 | 9999 | 0346 | 9994 | 0520 | 9986 | 0695 | 9976 | 0869 | 9962 | 1 |
| **60** | **0175** | **9999** | **0349** | **9994** | **0523** | **9986** | **0698** | **9976** | **0872** | **9962** | **0** |
| ′ | cos | sin | cos | sin | cos | sin | cos | sin | cos | sin | ′ |
| | 89° | | 88° | | 87° | | 86° | | 85° | | |

| ′ | 5° sin | 5° cos | 6° sin | 6° cos | 7° sin | 7° cos | 8° sin | 8° cos | 9° sin | 9° cos | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0872 | 9962 | 1045 | 9945 | 1219 | 9925 | 1392 | 9903 | 1564 | 9877 | 60 |
| 1 | 0874 | 9962 | 1048 | 9945 | 1222 | 9925 | 1395 | 9902 | 1567 | 9876 | 59 |
| 2 | 0877 | 9961 | 1051 | 9945 | 1224 | 9925 | 1397 | 9902 | 1570 | 9876 | 58 |
| 3 | 0880 | 9961 | 1054 | 9944 | 1227 | 9924 | 1400 | 9901 | 1573 | 9876 | 57 |
| 4 | 0883 | 9961 | 1057 | 9944 | 1230 | 9924 | 1403 | 9901 | 1576 | 9875 | 56 |
| 5 | 0886 | 9961 | 1060 | 9944 | 1233 | 9924 | 1406 | 9901 | 1579 | 9875 | 55 |
| 6 | 0889 | 9960 | 1063 | 9943 | 1236 | 9923 | 1409 | 9900 | 1582 | 9874 | 54 |
| 7 | 0892 | 9960 | 1066 | 9943 | 1239 | 9923 | 1412 | 9900 | 1584 | 9874 | 53 |
| 8 | 0895 | 9960 | 1068 | 9943 | 1242 | 9923 | 1415 | 9899 | 1587 | 9873 | 52 |
| 9 | 0898 | 9960 | 1071 | 9942 | 1245 | 9922 | 1418 | 9899 | 1590 | 9873 | 51 |
| 10 | 0901 | 9959 | 1074 | 9942 | 1248 | 9922 | 1421 | 9899 | 1593 | 9872 | 50 |
| 11 | 0903 | 9959 | 1077 | 9942 | 1250 | 9922 | 1423 | 9898 | 1596 | 9872 | 49 |
| 12 | 0906 | 9959 | 1080 | 9942 | 1253 | 9921 | 1426 | 9898 | 1599 | 9871 | 48 |
| 13 | 0909 | 9959 | 1083 | 9941 | 1256 | 9921 | 1429 | 9897 | 1602 | 9871 | 47 |
| 14 | 0912 | 9958 | 1086 | 9941 | 1259 | 9920 | 1432 | 9897 | 1605 | 9870 | 46 |
| 15 | 0915 | 9958 | 1089 | 9941 | 1262 | 9920 | 1435 | 9897 | 1607 | 9870 | 45 |
| 16 | 0918 | 9958 | 1092 | 9940 | 1265 | 9920 | 1438 | 9896 | 1610 | 9869 | 44 |
| 17 | 0921 | 9958 | 1094 | 9940 | 1268 | 9919 | 1441 | 9896 | 1613 | 9869 | 43 |
| 18 | 0924 | 9957 | 1097 | 9940 | 1271 | 9919 | 1444 | 9895 | 1616 | 9869 | 42 |
| 19 | 0927 | 9957 | 1100 | 9939 | 1274 | 9919 | 1446 | 9895 | 1619 | 9868 | 41 |
| 20 | 0929 | 9957 | 1103 | 9939 | 1276 | 9918 | 1449 | 9894 | 1622 | 9868 | 40 |
| 21 | 0932 | 9956 | 1106 | 9939 | 1279 | 9918 | 1452 | 9894 | 1625 | 9867 | 39 |
| 22 | 0935 | 9956 | 1109 | 9938 | 1282 | 9917 | 1455 | 9894 | 1628 | 9867 | 38 |
| 23 | 0938 | 9956 | 1112 | 9938 | 1285 | 9917 | 1458 | 9893 | 1630 | 9866 | 37 |
| 24 | 0941 | 9956 | 1115 | 9938 | 1288 | 9917 | 1461 | 9893 | 1633 | 9866 | 36 |
| 25 | 0944 | 9955 | 1118 | 9937 | 1291 | 9916 | 1464 | 9892 | 1636 | 9865 | 35 |
| 26 | 0947 | 9955 | 1120 | 9937 | 1294 | 9916 | 1467 | 9892 | 1639 | 9865 | 34 |
| 27 | 0950 | 9955 | 1123 | 9937 | 1297 | 9916 | 1469 | 9891 | 1642 | 9864 | 33 |
| 28 | 0953 | 9955 | 1126 | 9936 | 1299 | 9915 | 1472 | 9891 | 1645 | 9864 | 32 |
| 29 | 0956 | 9954 | 1129 | 9936 | 1302 | 9915 | 1475 | 9891 | 1648 | 9863 | 31 |
| 30 | 0958 | 9954 | 1132 | 9936 | 1305 | 9914 | 1478 | 9890 | 1650 | 9863 | 30 |
| 31 | 0961 | 9954 | 1135 | 9935 | 1308 | 9914 | 1481 | 9890 | 1653 | 9862 | 29 |
| 32 | 0964 | 9953 | 1138 | 9935 | 1311 | 9914 | 1484 | 9889 | 1656 | 9861 | 28 |
| 33 | 0967 | 9953 | 1141 | 9935 | 1314 | 9913 | 1487 | 9889 | 1659 | 9861 | 27 |
| 34 | 0970 | 9953 | 1144 | 9934 | 1317 | 9913 | 1490 | 9888 | 1662 | 9861 | 26 |
| 35 | 0973 | 9953 | 1146 | 9934 | 1320 | 9913 | 1492 | 9888 | 1665 | 9860 | 25 |
| 36 | 0976 | 9952 | 1149 | 9934 | 1323 | 9912 | 1495 | 9888 | 1668 | 9860 | 24 |
| 37 | 0979 | 9952 | 1152 | 9933 | 1325 | 9912 | 1498 | 9887 | 1671 | 9859 | 23 |
| 38 | 0982 | 9952 | 1155 | 9933 | 1328 | 9911 | 1501 | 9887 | 1673 | 9859 | 22 |
| 39 | 0985 | 9951 | 1158 | 9933 | 1331 | 9911 | 1504 | 9886 | 1676 | 9859 | 21 |
| 40 | 0987 | 9951 | 1161 | 9932 | 1334 | 9911 | 1507 | 9886 | 1679 | 9858 | 20 |
| 41 | 0990 | 9951 | 1164 | 9932 | 1337 | 9910 | 1510 | 9885 | 1682 | 9858 | 19 |
| 42 | 0993 | 9951 | 1167 | 9932 | 1340 | 9910 | 1513 | 9885 | 1685 | 9857 | 18 |
| 43 | 0996 | 9950 | 1170 | 9931 | 1343 | 9909 | 1515 | 9884 | 1688 | 9857 | 17 |
| 44 | 0999 | 9950 | 1172 | 9931 | 1346 | 9909 | 1518 | 9884 | 1691 | 9856 | 16 |
| 45 | 1002 | 9950 | 1175 | 9931 | 1349 | 9909 | 1521 | 9884 | 1693 | 9856 | 15 |
| 46 | 1005 | 9949 | 1178 | 9930 | 1351 | 9908 | 1524 | 9883 | 1696 | 9855 | 14 |
| 47 | 1008 | 9949 | 1181 | 9930 | 1354 | 9908 | 1527 | 9883 | 1699 | 9855 | 13 |
| 48 | 1011 | 9949 | 1184 | 9930 | 1357 | 9907 | 1530 | 9882 | 1702 | 9854 | 12 |
| 49 | 1013 | 9949 | 1187 | 9929 | 1360 | 9907 | 1533 | 9882 | 1705 | 9854 | 11 |
| 50 | 1016 | 9948 | 1190 | 9929 | 1363 | 9907 | 1536 | 9881 | 1708 | 9853 | 10 |
| 51 | 1019 | 9948 | 1193 | 9929 | 1366 | 9906 | 1538 | 9881 | 1711 | 9853 | 9 |
| 52 | 1022 | 9948 | 1196 | 9928 | 1369 | 9906 | 1541 | 9880 | 1714 | 9852 | 8 |
| 53 | 1025 | 9947 | 1198 | 9928 | 1372 | 9905 | 1544 | 9880 | 1716 | 9852 | 7 |
| 54 | 1028 | 9947 | 1201 | 9928 | 1374 | 9905 | 1547 | 9880 | 1719 | 9851 | 6 |
| 55 | 1031 | 9947 | 1204 | 9927 | 1377 | 9905 | 1550 | 9879 | 1722 | 9851 | 5 |
| 56 | 1034 | 9946 | 1207 | 9927 | 1380 | 9904 | 1553 | 9879 | 1725 | 9850 | 4 |
| 57 | 1037 | 9946 | 1210 | 9927 | 1383 | 9904 | 1556 | 9878 | 1728 | 9850 | 3 |
| 58 | 1039 | 9946 | 1213 | 9926 | 1386 | 9903 | 1559 | 9878 | 1731 | 9849 | 2 |
| 59 | 1042 | 9946 | 1216 | 9926 | 1389 | 9903 | 1561 | 9877 | 1734 | 9849 | 1 |
| 60 | 1045 | 9945 | 1219 | 9925 | 1392 | 9903 | 1564 | 9877 | 1736 | 9848 | 0 |
| ′ | cos | sin | cos | sin | cos | sin | cos | sin | cos | sin | ′ |
| | 84° | | 83° | | 82° | | 81° | | 80° | | |

| | 10° | | 11° | | 12° | | 13° | | 14° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | sin | cos | sin | cos | sin | cos | sin | cos | sin | cos | ′ |
| 0 | 1736 | 9848 | 1908 | 9816 | 2079 | 9781 | 2250 | 9744 | 2419 | 9703 | 60 |
| 1 | 1739 | 9848 | 1911 | 9816 | 2082 | 9781 | 2252 | 9743 | 2422 | 9702 | 59 |
| 2 | 1742 | 9847 | 1914 | 9815 | 2085 | 9780 | 2255 | 9742 | 2425 | 9702 | 58 |
| 3 | 1745 | 9847 | 1917 | 9815 | 2088 | 9780 | 2258 | 9742 | 2428 | 9701 | 57 |
| 4 | 1748 | 9846 | 1920 | 9814 | 2090 | 9779 | 2261 | 9741 | 2431 | 9700 | 56 |
| 5 | 1751 | 9846 | 1922 | 9813 | 2093 | 9778 | 2264 | 9740 | 2433 | 9699 | 55 |
| 6 | 1754 | 9845 | 1925 | 9813 | 2096 | 9778 | 2267 | 9740 | 2436 | 9699 | 54 |
| 7 | 1757 | 9845 | 1928 | 9812 | 2099 | 9777 | 2269 | 9739 | 2439 | 9698 | 53 |
| 8 | 1759 | 9844 | 1931 | 9812 | 2102 | 9777 | 2272 | 9738 | 2442 | 9697 | 52 |
| 9 | 1762 | 9843 | 1934 | 9811 | 2105 | 9776 | 2275 | 9738 | 2445 | 9697 | 51 |
| 10 | 1765 | 9843 | 1937 | 9811 | 2108 | 9775 | 2278 | 9737 | 2447 | 9696 | 50 |
| 11 | 1768 | 9842 | 1939 | 9810 | 2110 | 9775 | 2281 | 9736 | 2450 | 9695 | 49 |
| 12 | 1771 | 9842 | 1942 | 9810 | 2113 | 9774 | 2284 | 9736 | 2453 | 9694 | 48 |
| 13 | 1774 | 9841 | 1945 | 9809 | 2116 | 9774 | 2286 | 9735 | 2456 | 9694 | 47 |
| 14 | 1777 | 9841 | 1948 | 9808 | 2119 | 9773 | 2289 | 9734 | 2459 | 9693 | 46 |
| 15 | 1779 | 9840 | 1951 | 9808 | 2122 | 9772 | 2292 | 9734 | 2462 | 9692 | 45 |
| 16 | 1782 | 9840 | 1954 | 9807 | 2125 | 9772 | 2295 | 9733 | 2464 | 9692 | 44 |
| 17 | 1785 | 9839 | 1957 | 9807 | 2127 | 9771 | 2298 | 9732 | 2467 | 9691 | 43 |
| 18 | 1788 | 9839 | 1959 | 9806 | 2130 | 9770 | 2300 | 9732 | 2470 | 9690 | 42 |
| 19 | 1791 | 9838 | 1962 | 9806 | 2133 | 9770 | 2303 | 9731 | 2473 | 9689 | 41 |
| 20 | 1794 | 9838 | 1965 | 9805 | 2136 | 9769 | 2306 | 9730 | 2476 | 9689 | 40 |
| 21 | 1797 | 9837 | 1968 | 9804 | 2139 | 9769 | 2309 | 9730 | 2478 | 9688 | 39 |
| 22 | 1799 | 9837 | 1971 | 9804 | 2142 | 9768 | 2312 | 9729 | 2481 | 9687 | 38 |
| 23 | 1802 | 9836 | 1974 | 9803 | 2145 | 9767 | 2315 | 9728 | 2484 | 9687 | 37 |
| 24 | 1805 | 9836 | 1977 | 9803 | 2147 | 9767 | 2317 | 9728 | 2487 | 9686 | 36 |
| 25 | 1808 | 9835 | 1979 | 9802 | 2150 | 9766 | 2320 | 9727 | 2490 | 9685 | 35 |
| 26 | 1811 | 9835 | 1982 | 9802 | 2153 | 9765 | 2323 | 9726 | 2493 | 9684 | 34 |
| 27 | 1814 | 9834 | 1985 | 9801 | 2156 | 9765 | 2326 | 9726 | 2495 | 9684 | 33 |
| 28 | 1817 | 9834 | 1988 | 9800 | 2159 | 9764 | 2329 | 9725 | 2498 | 9683 | 32 |
| 29 | 1819 | 9833 | 1991 | 9800 | 2162 | 9764 | 2332 | 9724 | 2501 | 9682 | 31 |
| 30 | 1822 | 9833 | 1994 | 9799 | 2164 | 9763 | 2334 | 9724 | 2504 | 9681 | 30 |
| 31 | 1825 | 9832 | 1997 | 9799 | 2167 | 9762 | 2337 | 9723 | 2507 | 9681 | 29 |
| 32 | 1828 | 9831 | 1999 | 9798 | 2170 | 9762 | 2340 | 9722 | 2509 | 9680 | 28 |
| 33 | 1831 | 9831 | 2002 | 9798 | 2173 | 9761 | 2343 | 9722 | 2512 | 9679 | 27 |
| 34 | 1834 | 9830 | 2005 | 9797 | 2176 | 9760 | 2346 | 9721 | 2515 | 9679 | 26 |
| 35 | 1837 | 9830 | 2008 | 9796 | 2179 | 9760 | 2349 | 9720 | 2518 | 9678 | 25 |
| 36 | 1840 | 9829 | 2011 | 9796 | 2181 | 9759 | 2351 | 9720 | 2521 | 9677 | 24 |
| 37 | 1842 | 9829 | 2014 | 9795 | 2184 | 9759 | 2354 | 9719 | 2524 | 9676 | 23 |
| 38 | 1845 | 9828 | 2016 | 9795 | 2187 | 9758 | 2357 | 9718 | 2526 | 9676 | 22 |
| 39 | 1848 | 9828 | 2019 | 9794 | 2190 | 9757 | 2360 | 9718 | 2529 | 9675 | 21 |
| 40 | 1851 | 9827 | 2022 | 9793 | 2193 | 9757 | 2363 | 9717 | 2532 | 9674 | 20 |
| 41 | 1854 | 9827 | 2025 | 9793 | 2196 | 9756 | 2366 | 9716 | 2535 | 9673 | 19 |
| 42 | 1857 | 9826 | 2028 | 9792 | 2198 | 9755 | 2368 | 9715 | 2538 | 9673 | 18 |
| 43 | 1860 | 9826 | 2031 | 9792 | 2201 | 9755 | 2371 | 9715 | 2540 | 9672 | 17 |
| 44 | 1862 | 9825 | 2034 | 9791 | 2204 | 9754 | 2374 | 9714 | 2543 | 9671 | 16 |
| 45 | 1865 | 9825 | 2036 | 9790 | 2207 | 9753 | 2377 | 9713 | 2546 | 9670 | 15 |
| 46 | 1868 | 9824 | 2039 | 9790 | 2210 | 9753 | 2380 | 9713 | 2549 | 9670 | 14 |
| 47 | 1871 | 9823 | 2042 | 9789 | 2213 | 9752 | 2383 | 9712 | 2552 | 9669 | 13 |
| 48 | 1874 | 9823 | 2045 | 9789 | 2215 | 9751 | 2385 | 9711 | 2554 | 9668 | 12 |
| 49 | 1877 | 9822 | 2048 | 9788 | 2218 | 9751 | 2388 | 9711 | 2557 | 9667 | 11 |
| 50 | 1880 | 9822 | 2051 | 9787 | 2221 | 9750 | 2391 | 9710 | 2560 | 9667 | 10 |
| 51 | 1882 | 9821 | 2054 | 9787 | 2224 | 9750 | 2394 | 9709 | 2563 | 9666 | 9 |
| 52 | 1885 | 9821 | 2056 | 9786 | 2227 | 9749 | 2397 | 9709 | 2566 | 9665 | 8 |
| 53 | 1888 | 9820 | 2059 | 9786 | 2230 | 9748 | 2399 | 9708 | 2569 | 9665 | 7 |
| 54 | 1891 | 9820 | 2062 | 9785 | 2233 | 9748 | 2402 | 9707 | 2571 | 9664 | 6 |
| 55 | 1894 | 9819 | 2065 | 9784 | 2235 | 9747 | 2405 | 9706 | 2574 | 9663 | 5 |
| 56 | 1897 | 9818 | 2068 | 9784 | 2238 | 9746 | 2408 | 9706 | 2577 | 9662 | 4 |
| 57 | 1900 | 9818 | 2071 | 9783 | 2241 | 9746 | 2411 | 9705 | 2580 | 9662 | 3 |
| 58 | 1902 | 9817 | 2073 | 9783 | 2244 | 9745 | 2414 | 9704 | 2583 | 9661 | 2 |
| 59 | 1905 | 9817 | 2076 | 9782 | 2247 | 9744 | 2416 | 9704 | 2585 | 9660 | 1 |
| 60 | 1908 | 9816 | 2079 | 9781 | 2250 | 9744 | 2419 | 9703 | 2588 | 9659 | 0 |
| ′ | cos | sin | cos | sin | cos | sin | cos | sin | cos | sin | ′ |
| | 79° | | 78° | | 77° | | 76° | | 75° | | |

| | 15° | | 16° | | 17° | | 18° | | 19° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | sin | cos | sin | cos | sin | cos | sin | cos | sin | cos | ′ |
| **0** | **2588** | **9659** | **2756** | **9613** | **2924** | **9563** | **3090** | **9511** | **3256** | **9455** | **60** |
| 1 | 2591 | 9659 | 2759 | 9612 | 2926 | 9562 | 3093 | 9510 | 3258 | 9454 | 59 |
| 2 | 2594 | 9658 | 2762 | 9611 | 2929 | 9561 | 3096 | 9509 | 3261 | 9453 | 58 |
| 3 | 2597 | 9657 | 2765 | 9610 | 2932 | 9560 | 3098 | 9508 | 3264 | 9452 | 57 |
| 4 | 2599 | 9656 | 2768 | 9609 | 2935 | 9560 | 3101 | 9507 | 3267 | 9451 | 56 |
| **5** | **2602** | **9655** | **2770** | **9609** | **2938** | **9559** | **3104** | **9506** | **3269** | **9450** | **55** |
| 6 | 2605 | 9655 | 2773 | 9608 | 2940 | 9558 | 3107 | 9505 | 3272 | 9449 | 54 |
| 7 | 2608 | 9654 | 2776 | 9607 | 2943 | 9557 | 3110 | 9504 | 3275 | 9449 | 53 |
| 8 | 2611 | 9653 | 2779 | 9606 | 2946 | 9556 | 3112 | 9503 | 3278 | 9448 | 52 |
| 9 | 2613 | 9652 | 2782 | 9605 | 2949 | 9555 | 3115 | 9502 | 3280 | 9447 | 51 |
| **10** | **2616** | **9652** | **2784** | **9605** | **2952** | **9555** | **3118** | **9502** | **3283** | **9446** | **50** |
| 11 | 2619 | 9651 | 2787 | 9604 | 2954 | 9554 | 3121 | 9501 | 3286 | 9445 | 49 |
| 12 | 2622 | 9650 | 2790 | 9603 | 2957 | 9553 | 3123 | 9500 | 3289 | 9444 | 48 |
| 13 | 2625 | 9649 | 2793 | 9602 | 2960 | 9552 | 3126 | 9499 | 3291 | 9443 | 47 |
| 14 | 2628 | 9649 | 2795 | 9601 | 2963 | 9551 | 3129 | 9498 | 3294 | 9442 | 46 |
| **15** | **2630** | **9648** | **2798** | **9600** | **2965** | **9550** | **3132** | **9497** | **3297** | **9441** | **45** |
| 16 | 2633 | 9647 | 2801 | 9600 | 2968 | 9549 | 3134 | 9496 | 3300 | 9440 | 44 |
| 17 | 2636 | 9646 | 2804 | 9599 | 2971 | 9548 | 3137 | 9495 | 3302 | 9439 | 43 |
| 18 | 2639 | 9646 | 2807 | 9598 | 2974 | 9548 | 3140 | 9494 | 3305 | 9438 | 42 |
| 19 | 2642 | 9645 | 2809 | 9597 | 2977 | 9547 | 3143 | 9493 | 3308 | 9437 | 41 |
| **20** | **2644** | **9644** | **2812** | **9596** | **2979** | **9546** | **3145** | **9492** | **3311** | **9436** | **40** |
| 21 | 2647 | 9643 | 2815 | 9596 | 2982 | 9545 | 3148 | 9492 | 3313 | 9435 | 39 |
| 22 | 2650 | 9642 | 2818 | 9595 | 2985 | 9544 | 3151 | 9491 | 3316 | 9434 | 38 |
| 23 | 2653 | 9642 | 2821 | 9594 | 2988 | 9543 | 3154 | 9490 | 3319 | 9433 | 37 |
| 24 | 2656 | 9641 | 2823 | 9593 | 2990 | 9542 | 3156 | 9489 | 3322 | 9432 | 36 |
| **25** | **2658** | **9640** | **2826** | **9592** | **2993** | **9542** | **3159** | **9488** | **3324** | **9431** | **35** |
| 26 | 2661 | 9639 | 2829 | 9591 | 2996 | 9541 | 3162 | 9487 | 3327 | 9430 | 34 |
| 27 | 2664 | 9639 | 2832 | 9591 | 2999 | 9540 | 3165 | 9486 | 3330 | 9429 | 33 |
| 28 | 2667 | 9638 | 2835 | 9590 | 3002 | 9539 | 3168 | 9485 | 3333 | 9428 | 32 |
| 29 | 2670 | 9637 | 2837 | 9589 | 3004 | 9538 | 3170 | 9484 | 3335 | 9427 | 31 |
| **30** | **2672** | **9636** | **2840** | **9588** | **3007** | **9537** | **3173** | **9483** | **3338** | **9426** | **30** |
| 31 | 2675 | 9636 | 2843 | 9587 | 3010 | 9536 | 3176 | 9482 | 3341 | 9425 | 29 |
| 32 | 2678 | 9635 | 2846 | 9587 | 3013 | 9535 | 3179 | 9481 | 3344 | 9424 | 28 |
| 33 | 2681 | 9634 | 2849 | 9586 | 3015 | 9535 | 3181 | 9480 | 3346 | 9423 | 27 |
| 34 | 2684 | 9633 | 2851 | 9585 | 3018 | 9534 | 3184 | 9480 | 3349 | 9423 | 26 |
| **35** | **2686** | **9632** | **2854** | **9584** | **3021** | **9533** | **3187** | **9479** | **3352** | **9422** | **25** |
| 36 | 2689 | 9632 | 2857 | 9583 | 3024 | 9532 | 3190 | 9478 | 3355 | 9421 | 24 |
| 37 | 2692 | 9631 | 2860 | 9582 | 3026 | 9531 | 3192 | 9477 | 3357 | 9420 | 23 |
| 38 | 2695 | 9630 | 2862 | 9582 | 3029 | 9530 | 3195 | 9476 | 3360 | 9419 | 22 |
| 39 | 2698 | 9629 | 2865 | 9581 | 3032 | 9529 | 3198 | 9475 | 3363 | 9418 | 21 |
| **40** | **2700** | **9628** | **2868** | **9580** | **3035** | **9528** | **3201** | **9474** | **3365** | **9417** | **20** |
| 41 | 2703 | 9628 | 2871 | 9579 | 3038 | 9527 | 3203 | 9473 | 3368 | 9416 | 19 |
| 42 | 2706 | 9627 | 2874 | 9578 | 3040 | 9527 | 3206 | 9472 | 3371 | 9415 | 18 |
| 43 | 2709 | 9626 | 2876 | 9577 | 3043 | 9526 | 3209 | 9471 | 3374 | 9414 | 17 |
| 44 | 2712 | 9625 | 2879 | 9577 | 3046 | 9525 | 3212 | 9470 | 3376 | 9413 | 16 |
| **45** | **2714** | **9625** | **2882** | **9576** | **3049** | **9524** | **3214** | **9469** | **3379** | **9412** | **15** |
| 46 | 2717 | 9624 | 2885 | 9575 | 3051 | 9523 | 3217 | 9468 | 3382 | 9411 | 14 |
| 47 | 2720 | 9623 | 2888 | 9574 | 3054 | 9522 | 3220 | 9467 | 3385 | 9410 | 13 |
| 48 | 2723 | 9622 | 2890 | 9573 | 3057 | 9521 | 3223 | 9466 | 3387 | 9409 | 12 |
| 49 | 2726 | 9621 | 2893 | 9572 | 3060 | 9520 | 3225 | 9466 | 3390 | 9408 | 11 |
| **50** | **2728** | **9621** | **2896** | **9572** | **3062** | **9520** | **3228** | **9465** | **3393** | **9407** | **10** |
| 51 | 2731 | 9620 | 2899 | 9571 | 3065 | 9519 | 3231 | 9464 | 3396 | 9406 | 9 |
| 52 | 2734 | 9619 | 2901 | 9570 | 3068 | 9518 | 3234 | 9463 | 3398 | 9405 | 8 |
| 53 | 2737 | 9618 | 2904 | 9569 | 3071 | 9517 | 3236 | 9462 | 3401 | 9404 | 7 |
| 54 | 2740 | 9617 | 2907 | 9568 | 3074 | 9516 | 3239 | 9461 | 3404 | 9403 | 6 |
| **55** | **2742** | **9617** | **2910** | **9567** | **3076** | **9515** | **3242** | **9460** | **3407** | **9402** | **5** |
| 56 | 2745 | 9616 | 2913 | 9566 | 3079 | 9514 | 3245 | 9459 | 3409 | 9401 | 4 |
| 57 | 2748 | 9615 | 2915 | 9566 | 3082 | 9513 | 3247 | 9458 | 3412 | 9400 | 3 |
| 58 | 2751 | 9614 | 2918 | 9565 | 3085 | 9512 | 3250 | 9457 | 3415 | 9399 | 2 |
| 59 | 2754 | 9613 | 2921 | 9564 | 3087 | 9511 | 3253 | 9456 | 3417 | 9398 | 1 |
| **60** | **2756** | **9613** | **2924** | **9563** | **3090** | **9511** | **3256** | **9455** | **3420** | **9397** | **0** |
| ′ | cos | sin | cos | sin | cos | sin | cos | sin | cos | sin | ′ |
| | 74° | | 73° | | 72° | | 71° | | 70° | | |

| ′ | 20° sin | 20° cos | 21° sin | 21° cos | 22° sin | 22° cos | 23° sin | 23° cos | 24° sin | 24° cos | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | **3420** | **9397** | **3584** | **9336** | **3746** | **9272** | **3907** | **9205** | **4067** | **9135** | **60** |
| 1 | 3423 | 9396 | 3586 | 9335 | 3749 | 9271 | 3910 | 9204 | 4070 | 9134 | 59 |
| 2 | 3426 | 9395 | 3589 | 9334 | 3751 | 9270 | 3913 | 9203 | 4073 | 9133 | 58 |
| 3 | 3428 | 9394 | 3592 | 9333 | 3754 | 9269 | 3915 | 9202 | 4075 | 9132 | 57 |
| 4 | 3431 | 9393 | 3595 | 9332 | 3757 | 9267 | 3918 | 9200 | 4078 | 9131 | 56 |
| **5** | **3434** | **9392** | **3597** | **9331** | **3760** | **9266** | **3921** | **9199** | **4081** | **9130** | **55** |
| 6 | 3437 | 9391 | 3600 | 9330 | 3762 | 9265 | 3923 | 9198 | 4083 | 9128 | 54 |
| 7 | 3439 | 9390 | 3603 | 9328 | 3765 | 9264 | 3926 | 9197 | 4086 | 9127 | 53 |
| 8 | 3442 | 9389 | 3605 | 9327 | 3768 | 9263 | 3929 | 9196 | 4089 | 9126 | 52 |
| 9 | 3445 | 9388 | 3608 | 9326 | 3770 | 9262 | 3931 | 9195 | 4091 | 9125 | 51 |
| **10** | **3448** | **9387** | **3611** | **9325** | **3773** | **9261** | **3934** | **9194** | **4094** | **9124** | **50** |
| 11 | 3450 | 9386 | 3614 | 9324 | 3776 | 9260 | 3937 | 9192 | 4097 | 9122 | 49 |
| 12 | 3453 | 9385 | 3616 | 9323 | 3778 | 9259 | 3939 | 9191 | 4099 | 9121 | 48 |
| 13 | 3456 | 9384 | 3619 | 9322 | 3781 | 9258 | 3942 | 9190 | 4102 | 9120 | 47 |
| 14 | 3458 | 9383 | 3622 | 9321 | 3784 | 9257 | 3945 | 9189 | 4105 | 9119 | 46 |
| **15** | **3461** | **9382** | **3624** | **9320** | **3786** | **9255** | **3947** | **9188** | **4107** | **9118** | **45** |
| 16 | 3464 | 9381 | 3627 | 9319 | 3789 | 9254 | 3950 | 9187 | 4110 | 9116 | 44 |
| 17 | 3467 | 9380 | 3630 | 9318 | 3792 | 9253 | 3953 | 9186 | 4112 | 9115 | 43 |
| 18 | 3469 | 9379 | 3633 | 9317 | 3795 | 9252 | 3955 | 9184 | 4115 | 9114 | 42 |
| 19 | 3472 | 9378 | 3635 | 9316 | 3797 | 9251 | 3958 | 9183 | 4118 | 9113 | 41 |
| **20** | **3475** | **9377** | **3638** | **9315** | **3800** | **9250** | **3961** | **9182** | **4120** | **9112** | **40** |
| 21 | 3478 | 9376 | 3641 | 9314 | 3803 | 9249 | 3963 | 9181 | 4123 | 9110 | 39 |
| 22 | 3480 | 9375 | 3643 | 9313 | 3805 | 9248 | 3966 | 9180 | 4126 | 9109 | 38 |
| 23 | 3483 | 9374 | 3646 | 9312 | 3808 | 9247 | 3969 | 9179 | 4128 | 9108 | 37 |
| 24 | 3486 | 9373 | 3649 | 9311 | 3811 | 9245 | 3971 | 9178 | 4131 | 9107 | 36 |
| **25** | **3488** | **9372** | **3651** | **9309** | **3813** | **9244** | **3974** | **9176** | **4134** | **9106** | **35** |
| 26 | 3491 | 9371 | 3654 | 9308 | 3816 | 9243 | 3977 | 9175 | 4136 | 9104 | 34 |
| 27 | 3494 | 9370 | 3657 | 9307 | 3819 | 9242 | 3979 | 9174 | 4139 | 9103 | 33 |
| 28 | 3497 | 9369 | 3660 | 9306 | 3821 | 9241 | 3982 | 9173 | 4142 | 9102 | 32 |
| 29 | 3499 | 9368 | 3662 | 9305 | 3824 | 9240 | 3985 | 9172 | 4144 | 9101 | 31 |
| **30** | **3502** | **9367** | **3665** | **9304** | **3827** | **9239** | **3987** | **9171** | **4147** | **9100** | **30** |
| 31 | 3505 | 9366 | 3668 | 9303 | 3830 | 9238 | 3990 | 9169 | 4150 | 9098 | 29 |
| 32 | 3508 | 9365 | 3670 | 9302 | 3832 | 9237 | 3993 | 9168 | 4152 | 9097 | 28 |
| 33 | 3510 | 9364 | 3673 | 9301 | 3835 | 9235 | 3995 | 9167 | 4155 | 9096 | 27 |
| 34 | 3513 | 9363 | 3676 | 9300 | 3838 | 9234 | 3998 | 9166 | 4158 | 9095 | 26 |
| **35** | **3516** | **9362** | **3679** | **9299** | **3840** | **9233** | **4001** | **9165** | **4160** | **9094** | **25** |
| 36 | 3518 | 9361 | 3681 | 9298 | 3843 | 9232 | 4003 | 9164 | 4163 | 9092 | 24 |
| 37 | 3521 | 9360 | 3684 | 9297 | 3846 | 9231 | 4006 | 9162 | 4165 | 9091 | 23 |
| 38 | 3524 | 9359 | 3687 | 9296 | 3848 | 9230 | 4009 | 9161 | 4168 | 9090 | 22 |
| 39 | 3527 | 9358 | 3689 | 9295 | 3851 | 9229 | 4011 | 9160 | 4171 | 9089 | 21 |
| **40** | **3529** | **9356** | **3692** | **9293** | **3854** | **9228** | **4014** | **9159** | **4173** | **9088** | **20** |
| 41 | 3532 | 9355 | 3695 | 9292 | 3856 | 9227 | 4017 | 9158 | 4176 | 9086 | 19 |
| 42 | 3535 | 9354 | 3697 | 9291 | 3859 | 9225 | 4019 | 9157 | 4179 | 9085 | 18 |
| 43 | 3537 | 9353 | 3700 | 9290 | 3862 | 9224 | 4022 | 9155 | 4181 | 9084 | 17 |
| 44 | 3540 | 9352 | 3703 | 9289 | 3864 | 9223 | 4025 | 9154 | 4184 | 9083 | 16 |
| **45** | **3543** | **9351** | **3706** | **9288** | **3867** | **9222** | **4027** | **9153** | **4187** | **9081** | **15** |
| 46 | 3546 | 9350 | 3708 | 9287 | 3870 | 9221 | 4030 | 9152 | 4189 | 9080 | 14 |
| 47 | 3548 | 9349 | 3711 | 9286 | 3872 | 9220 | 4033 | 9151 | 4192 | 9079 | 13 |
| 48 | 3551 | 9348 | 3714 | 9285 | 3875 | 9219 | 4035 | 9150 | 4195 | 9078 | 12 |
| 49 | 3554 | 9347 | 3716 | 9284 | 3878 | 9218 | 4038 | 9148 | 4197 | 9077 | 11 |
| **50** | **3557** | **9346** | **3719** | **9283** | **3881** | **9216** | **4041** | **9147** | **4200** | **9075** | **10** |
| 51 | 3559 | 9345 | 3722 | 9282 | 3883 | 9215 | 4043 | 9146 | 4202 | 9074 | 9 |
| 52 | 3562 | 9344 | 3724 | 9281 | 3886 | 9214 | 4046 | 9145 | 4205 | 9073 | 8 |
| 53 | 3565 | 9343 | 3727 | 9279 | 3889 | 9213 | 4049 | 9144 | 4208 | 9072 | 7 |
| 54 | 3567 | 9342 | 3730 | 9278 | 3891 | 9212 | 4051 | 9143 | 4210 | 9070 | 6 |
| **55** | **3570** | **9341** | **3733** | **9277** | **3894** | **9211** | **4054** | **9141** | **4213** | **9069** | **5** |
| 56 | 3573 | 9340 | 3735 | 9276 | 3897 | 9210 | 4057 | 9140 | 4216 | 9068 | 4 |
| 57 | 3576 | 9339 | 3738 | 9275 | 3899 | 9208 | 4059 | 9139 | 4218 | 9067 | 3 |
| 58 | 3578 | 9338 | 3741 | 9274 | 3902 | 9207 | 4062 | 9138 | 4221 | 9066 | 2 |
| 59 | 3581 | 9337 | 3743 | 9273 | 3905 | 9206 | 4065 | 9137 | 4224 | 9064 | 1 |
| **60** | **3584** | **9336** | **3746** | **9272** | **3907** | **9205** | **4067** | **9135** | **4226** | **9063** | **0** |
| ′ | cos | sin | cos | sin | cos | sin | cos | sin | cos | sin | ′ |
| | 69° | | 68° | | 67° | | 66° | | 65° | | |

| ′ | 25° | | 26° | | 27° | | 28° | | 29° | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | sin | cos | sin | cos | sin | cos | sin | cos | sin | cos | |
| **0** | **4226** | **9063** | **4384** | **8988** | **4540** | **8910** | **4695** | **8829** | **4848** | **8746** | **60** |
| 1 | 4229 | 9062 | 4386 | 8987 | 4542 | 8909 | 4697 | 8828 | 4851 | 8745 | 59 |
| 2 | 4231 | 9061 | 4389 | 8985 | 4545 | 8907 | 4700 | 8827 | 4853 | 8743 | 58 |
| 3 | 4234 | 9059 | 4392 | 8984 | 4548 | 8906 | 4702 | 8825 | 4856 | 8742 | 57 |
| 4 | 4237 | 9058 | 4394 | 8983 | 4550 | 8905 | 4705 | 8824 | 4858 | 8741 | 56 |
| **5** | **4239** | **9057** | **4397** | **8982** | **4553** | **8903** | **4708** | **8823** | **4861** | **8739** | **55** |
| 6 | 4242 | 9056 | 4399 | 8980 | 4555 | 8902 | 4710 | 8821 | 4863 | 8738 | 54 |
| 7 | 4245 | 9054 | 4402 | 8979 | 4558 | 8901 | 4713 | 8820 | 4866 | 8736 | 53 |
| 8 | 4247 | 9053 | 4405 | 8978 | 4561 | 8899 | 4715 | 8819 | 4868 | 8735 | 52 |
| 9 | 4250 | 9052 | 4407 | 8976 | 4563 | 8898 | 4718 | 8817 | 4871 | 8733 | 51 |
| **10** | **4253** | **9051** | **4410** | **8975** | **4566** | **8897** | **4720** | **8816** | **4874** | **8732** | **50** |
| 11 | 4255 | 9050 | 4412 | 8974 | 4568 | 8895 | 4723 | 8814 | 4876 | 8731 | 49 |
| 12 | 4258 | 9048 | 4415 | 8973 | 4571 | 8894 | 4726 | 8813 | 4879 | 8729 | 48 |
| 13 | 4260 | 9047 | 4418 | 8971 | 4574 | 8893 | 4728 | 8812 | 4881 | 8728 | 47 |
| 14 | 4263 | 9046 | 4420 | 8970 | 4576 | 8892 | 4731 | 8810 | 4884 | 8726 | 46 |
| **15** | **4266** | **9045** | **4423** | **8969** | **4579** | **8890** | **4733** | **8809** | **4886** | **8725** | **45** |
| 16 | 4268 | 9043 | 4425 | 8967 | 4581 | 8889 | 4736 | 8808 | 4889 | 8724 | 44 |
| 17 | 4271 | 9042 | 4428 | 8966 | 4584 | 8888 | 4738 | 8806 | 4891 | 8722 | 43 |
| 18 | 4274 | 9041 | 4431 | 8965 | 4586 | 8886 | 4741 | 8805 | 4894 | 8721 | 42 |
| 19 | 4276 | 9040 | 4433 | 8964 | 4589 | 8885 | 4743 | 8803 | 4896 | 8719 | 41 |
| **20** | **4279** | **9038** | **4436** | **8962** | **4592** | **8884** | **4746** | **8802** | **4899** | **8718** | **40** |
| 21 | 4281 | 9037 | 4439 | 8961 | 4594 | 8882 | 4749 | 8801 | 4901 | 8716 | 39 |
| 22 | 4284 | 9036 | 4441 | 8960 | 4597 | 8881 | 4751 | 8799 | 4904 | 8715 | 38 |
| 23 | 4287 | 9035 | 4444 | 8958 | 4599 | 8879 | 4754 | 8798 | 4907 | 8714 | 37 |
| 24 | 4289 | 9033 | 4446 | 8957 | 4602 | 8878 | 4756 | 8796 | 4909 | 8712 | 36 |
| **25** | **4292** | **9032** | **4449** | **8956** | **4605** | **8877** | **4759** | **8795** | **4912** | **8711** | **35** |
| 26 | 4295 | 9031 | 4452 | 8955 | 4607 | 8875 | 4761 | 8794 | 4914 | 8709 | 34 |
| 27 | 4297 | 9030 | 4454 | 8953 | 4610 | 8874 | 4764 | 8792 | 4917 | 8708 | 33 |
| 28 | 4300 | 9028 | 4457 | 8952 | 4612 | 8873 | 4766 | 8791 | 4919 | 8706 | 32 |
| 29 | 4302 | 9027 | 4459 | 8951 | 4615 | 8871 | 4769 | 8790 | 4922 | 8705 | 31 |
| **30** | **4305** | **9026** | **4462** | **8949** | **4617** | **8870** | **4772** | **8788** | **4924** | **8704** | **30** |
| 31 | 4308 | 9025 | 4465 | 8948 | 4620 | 8869 | 4774 | 8787 | 4927 | 8702 | 29 |
| 32 | 4310 | 9023 | 4467 | 8947 | 4623 | 8867 | 4777 | 8785 | 4929 | 8701 | 28 |
| 33 | 4313 | 9022 | 4470 | 8945 | 4625 | 8866 | 4779 | 8784 | 4932 | 8699 | 27 |
| 34 | 4316 | 9021 | 4472 | 8944 | 4628 | 8865 | 4782 | 8783 | 4934 | 8698 | 26 |
| **35** | **4318** | **9020** | **4475** | **8943** | **4630** | **8863** | **4784** | **8781** | **4937** | **8696** | **25** |
| 36 | 4321 | 9018 | 4478 | 8942 | 4633 | 8862 | 4787 | 8780 | 4939 | 8695 | 24 |
| 37 | 4323 | 9017 | 4480 | 8940 | 4636 | 8861 | 4789 | 8778 | 4942 | 8694 | 23 |
| 38 | 4326 | 9016 | 4483 | 8939 | 4638 | 8859 | 4792 | 8777 | 4944 | 8692 | 22 |
| 39 | 4329 | 9015 | 4485 | 8938 | 4641 | 8858 | 4795 | 8776 | 4947 | 8691 | 21 |
| **40** | **4331** | **9013** | **4488** | **8936** | **4643** | **8857** | **4797** | **8774** | **4950** | **8689** | **20** |
| 41 | 4334 | 9012 | 4491 | 8935 | 4646 | 8855 | 4800 | 8773 | 4952 | 8688 | 19 |
| 42 | 4337 | 9011 | 4493 | 8934 | 4648 | 8854 | 4802 | 8771 | 4955 | 8686 | 18 |
| 43 | 4339 | 9010 | 4496 | 8932 | 4651 | 8853 | 4805 | 8770 | 4957 | 8685 | 17 |
| 44 | 4342 | 9008 | 4498 | 8931 | 4654 | 8851 | 4807 | 8769 | 4960 | 8683 | 16 |
| **45** | **4344** | **9007** | **4501** | **8930** | **4656** | **8850** | **4810** | **8767** | **4962** | **8682** | **15** |
| 46 | 4347 | 9006 | 4504 | 8928 | 4659 | 8849 | 4812 | 8766 | 4965 | 8681 | 14 |
| 47 | 4350 | 9004 | 4506 | 8927 | 4661 | 8847 | 4815 | 8764 | 4967 | 8679 | 13 |
| 48 | 4352 | 9003 | 4509 | 8926 | 4664 | 8846 | 4818 | 8763 | 4970 | 8678 | 12 |
| 49 | 4355 | 9002 | 4511 | 8925 | 4666 | 8844 | 4820 | 8762 | 4972 | 8676 | 11 |
| **50** | **4358** | **9001** | **4514** | **8923** | **4669** | **8843** | **4823** | **8760** | **4975** | **8675** | **10** |
| 51 | 4360 | 8999 | 4517 | 8922 | 4672 | 8842 | 4825 | 8759 | 4977 | 8673 | 9 |
| 52 | 4363 | 8998 | 4519 | 8921 | 4674 | 8840 | 4828 | 8757 | 4980 | 8672 | 8 |
| 53 | 4365 | 8997 | 4522 | 8919 | 4677 | 8839 | 4830 | 8756 | 4982 | 8670 | 7 |
| 54 | 4368 | 8996 | 4524 | 8918 | 4679 | 8838 | 4833 | 8755 | 4985 | 8669 | 6 |
| **55** | **4371** | **8994** | **4527** | **8917** | **4682** | **8836** | **4835** | **8753** | **4987** | **8668** | **5** |
| 56 | 4373 | 8993 | 4530 | 8915 | 4684 | 8835 | 4838 | 8752 | 4990 | 8666 | 4 |
| 57 | 4376 | 8992 | 4532 | 8914 | 4687 | 8834 | 4840 | 8750 | 4992 | 8665 | 3 |
| 58 | 4378 | 8990 | 4535 | 8913 | 4690 | 8832 | 4843 | 8749 | 4995 | 8663 | 2 |
| 59 | 4381 | 8989 | 4537 | 8911 | 4692 | 8831 | 4846 | 8748 | 4997 | 8662 | 1 |
| **60** | **4384** | **8988** | **4540** | **8910** | **4695** | **8829** | **4848** | **8746** | **5000** | **8660** | **0** |
| ′ | cos | sin | cos | sin | cos | sin | cos | sin | cos | sin | ′ |
| | 64° | | 63° | | 62° | | 61° | | 60° | | |

| | 30° | | 31° | | 32° | | 33° | | 34° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | sin | cos | sin | cos | sin | cos | sin | cos | sin | cos | ′ |
| **0** | **5000** | **8660** | **5150** | **8572** | **5299** | **8480** | **5446** | **8387** | **5592** | **8290** | **60** |
| 1 | 5003 | 8659 | 5153 | 8570 | 5302 | 8479 | 5449 | 8385 | 5594 | 8289 | 59 |
| 2 | 5005 | 8657 | 5155 | 8569 | 5304 | 8477 | 5451 | 8384 | 5597 | 8287 | 58 |
| 3 | 5008 | 8656 | 5158 | 8567 | 5307 | 8476 | 5454 | 8382 | 5599 | 8285 | 57 |
| 4 | 5010 | 8654 | 5160 | 8566 | 5309 | 8474 | 5456 | 8380 | 5602 | 8284 | 56 |
| **5** | **5013** | **8653** | **5163** | **8564** | **5312** | **8473** | **5459** | **8379** | **5604** | **8282** | **55** |
| 6 | 5015 | 8652 | 5165 | 8563 | 5314 | 8471 | 5461 | 8377 | 5606 | 8281 | 54 |
| 7 | 5018 | 8650 | 5168 | 8561 | 5316 | 8470 | 5463 | 8376 | 5609 | 8279 | 53 |
| 8 | 5020 | 8649 | 5170 | 8560 | 5319 | 8468 | 5466 | 8374 | 5611 | 8277 | 52 |
| 9 | 5023 | 8647 | 5173 | 8558 | 5321 | 8467 | 5468 | 8372 | 5614 | 8276 | 51 |
| **10** | **5025** | **8646** | **5175** | **8557** | **5324** | **8465** | **5471** | **8371** | **5616** | **8274** | **50** |
| 11 | 5028 | 8644 | 5178 | 8555 | 5326 | 8463 | 5473 | 8369 | 5618 | 8272 | 49 |
| 12 | 5030 | 8643 | 5180 | 8554 | 5329 | 8462 | 5476 | 8368 | 5621 | 8271 | 48 |
| 13 | 5033 | 8641 | 5183 | 8552 | 5331 | 8460 | 5478 | 8366 | 5623 | 8269 | 47 |
| 14 | 5035 | 8640 | 5185 | 8551 | 5334 | 8459 | 5480 | 8364 | 5626 | 8268 | 46 |
| **15** | **5038** | **8638** | **5188** | **8549** | **5336** | **8457** | **5483** | **8363** | **5628** | **8266** | **45** |
| 16 | 5040 | 8637 | 5190 | 8548 | 5339 | 8456 | 5485 | 8361 | 5630 | 8264 | 44 |
| 17 | 5043 | 8635 | 5193 | 8546 | 5341 | 8454 | 5488 | 8360 | 5633 | 8263 | 43 |
| 18 | 5045 | 8634 | 5195 | 8545 | 5344 | 8453 | 5490 | 8358 | 5635 | 8261 | 42 |
| 19 | 5048 | 8632 | 5198 | 8543 | 5346 | 8451 | 5493 | 8356 | 5638 | 8259 | 41 |
| **20** | **5050** | **8631** | **5200** | **8542** | **5348** | **8450** | **5495** | **8355** | **5640** | **8258** | **40** |
| 21 | 5053 | 8630 | 5203 | 8540 | 5351 | 8448 | 5498 | 8353 | 5642 | 8256 | 39 |
| 22 | 5055 | 8628 | 5205 | 8539 | 5353 | 8446 | 5500 | 8352 | 5645 | 8254 | 38 |
| 23 | 5058 | 8627 | 5208 | 8537 | 5356 | 8445 | 5502 | 8350 | 5647 | 8253 | 37 |
| 24 | 5060 | 8625 | 5210 | 8536 | 5358 | 8443 | 5505 | 8348 | 5650 | 8251 | 36 |
| **25** | **5063** | **8624** | **5213** | **8534** | **5361** | **8442** | **5507** | **8347** | **5652** | **8249** | **35** |
| 26 | 5065 | 8622 | 5215 | 8532 | 5363 | 8440 | 5510 | 8345 | 5654 | 8248 | 34 |
| 27 | 5068 | 8621 | 5218 | 8531 | 5366 | 8439 | 5512 | 8344 | 5657 | 8246 | 33 |
| 28 | 5070 | 8619 | 5220 | 8529 | 5368 | 8437 | 5515 | 8342 | 5659 | 8245 | 32 |
| 29 | 5073 | 8618 | 5223 | 8528 | 5371 | 8435 | 5517 | 8340 | 5662 | 8243 | 31 |
| **30** | **5075** | **8616** | **5225** | **8526** | **5373** | **8434** | **5519** | **8339** | **5664** | **8241** | **30** |
| 31 | 5078 | 8615 | 5227 | 8525 | 5375 | 8432 | 5522 | 8337 | 5666 | 8240 | 29 |
| 32 | 5080 | 8613 | 5230 | 8523 | 5378 | 8431 | 5524 | 8336 | 5669 | 8238 | 28 |
| 33 | 5083 | 8612 | 5232 | 8522 | 5380 | 8429 | 5527 | 8334 | 5671 | 8236 | 27 |
| 34 | 5085 | 8610 | 5235 | 8520 | 5383 | 8428 | 5529 | 8332 | 5674 | 8235 | 26 |
| **35** | **5088** | **8609** | **5237** | **8519** | **5385** | **8426** | **5531** | **8331** | **5676** | **8233** | **25** |
| 36 | 5090 | 8607 | 5240 | 8517 | 5388 | 8425 | 5534 | 8329 | 5678 | 8231 | 24 |
| 37 | 5093 | 8606 | 5242 | 8516 | 5390 | 8423 | 5536 | 8328 | 5681 | 8230 | 23 |
| 38 | 5095 | 8604 | 5245 | 8514 | 5393 | 8421 | 5539 | 8326 | 5683 | 8228 | 22 |
| 39 | 5098 | 8603 | 5247 | 8513 | 5395 | 8420 | 5541 | 8324 | 5686 | 8226 | 21 |
| **40** | **5100** | **8601** | **5250** | **8511** | **5398** | **8418** | **5544** | **8323** | **5688** | **8225** | **20** |
| 41 | 5103 | 8600 | 5252 | 8510 | 5400 | 8417 | 5546 | 8321 | 5690 | 8223 | 19 |
| 42 | 5105 | 8599 | 5255 | 8508 | 5402 | 8415 | 5548 | 8320 | 5693 | 8221 | 18 |
| 43 | 5108 | 8597 | 5257 | 8507 | 5405 | 8414 | 5551 | 8318 | 5695 | 8220 | 17 |
| 44 | 5110 | 8596 | 5260 | 8505 | 5407 | 8412 | 5553 | 8316 | 5698 | 8218 | 16 |
| **45** | **5113** | **8594** | **5262** | **8504** | **5410** | **8410** | **5556** | **8315** | **5700** | **8216** | **15** |
| 46 | 5115 | 8593 | 5265 | 8502 | 5412 | 8409 | 5558 | 8313 | 5702 | 8215 | 14 |
| 47 | 5118 | 8591 | 5267 | 8500 | 5415 | 8407 | 5561 | 8311 | 5705 | 8213 | 13 |
| 48 | 5120 | 8590 | 5270 | 8499 | 5417 | 8406 | 5563 | 8310 | 5707 | 8211 | 12 |
| 49 | 5123 | 8588 | 5272 | 8497 | 5420 | 8404 | 5565 | 8308 | 5710 | 8210 | 11 |
| **50** | **5125** | **8587** | **5275** | **8496** | **5422** | **8403** | **5568** | **8307** | **5712** | **8208** | **10** |
| 51 | 5128 | 8585 | 5277 | 8494 | 5424 | 8401 | 5570 | 8305 | 5714 | 8207 | 9 |
| 52 | 5130 | 8584 | 5279 | 8493 | 5427 | 8399 | 5573 | 8303 | 5717 | 8205 | 8 |
| 53 | 5133 | 8582 | 5282 | 8491 | 5429 | 8398 | 5575 | 8302 | 5719 | 8203 | 7 |
| 54 | 5135 | 8581 | 5284 | 8490 | 5432 | 8396 | 5577 | 8300 | 5721 | 8202 | 6 |
| **55** | **5138** | **8579** | **5287** | **8488** | **5434** | **8395** | **5580** | **8299** | **5724** | **8200** | **5** |
| 56 | 5140 | 8578 | 5289 | 8487 | 5437 | 8393 | 5582 | 8297 | 5726 | 8198 | 4 |
| 57 | 5143 | 8576 | 5292 | 8485 | 5439 | 8391 | 5585 | 8295 | 5729 | 8197 | 3 |
| 58 | 5145 | 8575 | 5294 | 8484 | 5442 | 8390 | 5587 | 8294 | 5731 | 8195 | 2 |
| 59 | 5148 | 8573 | 5297 | 8482 | 5444 | 8388 | 5590 | 8292 | 5733 | 8193 | 1 |
| **60** | **5150** | **8572** | **5299** | **8480** | **5446** | **8387** | **5592** | **8290** | **5736** | **8192** | **0** |
| ′ | cos | sin | cos | sin | cos | sin | cos | sin | cos | sin | ′ |
| | 59° | | 58° | | 57° | | 56° | | 55° | | |

| ′ | 35° sin | 35° cos | 36° sin | 36° cos | 37° sin | 37° cos | 38° sin | 38° cos | 39° sin | 39° cos | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | **5736** | **8192** | **5878** | **8090** | **6018** | **7986** | **6157** | **7880** | **6293** | **7771** | **60** |
| 1 | 5738 | 8190 | 5880 | 8088 | 6020 | 7985 | 6159 | 7878 | 6295 | 7770 | 59 |
| 2 | 5741 | 8188 | 5883 | 8087 | 6023 | 7983 | 6161 | 7877 | 6298 | 7768 | 58 |
| 3 | 5743 | 8187 | 5885 | 8085 | 6025 | 7981 | 6163 | 7875 | 6300 | 7766 | 57 |
| 4 | 5745 | 8185 | 5887 | 8083 | 6027 | 7979 | 6166 | 7873 | 6302 | 7764 | 56 |
| **5** | **5748** | **8183** | **5890** | **8082** | **6030** | **7978** | **6168** | **7871** | **6305** | **7762** | **55** |
| 6 | 5750 | 8181 | 5892 | 8080 | 6032 | 7976 | 6170 | 7869 | 6307 | 7760 | 54 |
| 7 | 5752 | 8180 | 5894 | 8078 | 6034 | 7974 | 6173 | 7868 | 6309 | 7759 | 53 |
| 8 | 5755 | 8178 | 5897 | 8076 | 6037 | 7972 | 6175 | 7866 | 6311 | 7757 | 52 |
| 9 | 5757 | 8176 | 5899 | 8075 | 6039 | 7971 | 6177 | 7864 | 6314 | 7755 | 51 |
| **10** | **5760** | **8175** | **5901** | **8073** | **6041** | **7969** | **6180** | **7862** | **6316** | **7753** | **50** |
| 11 | 5762 | 8173 | 5904 | 8071 | 6044 | 7967 | 6182 | 7860 | 6318 | 7751 | 49 |
| 12 | 5764 | 8171 | 5906 | 8070 | 6046 | 7965 | 6184 | 7859 | 6320 | 7749 | 48 |
| 13 | 5767 | 8170 | 5908 | 8068 | 6048 | 7964 | 6186 | 7857 | 6323 | 7748 | 47 |
| 14 | 5769 | 8168 | 5911 | 8066 | 6051 | 7962 | 6189 | 7855 | 6325 | 7746 | 46 |
| **15** | **5771** | **8166** | **5913** | **8064** | **6053** | **7960** | **6191** | **7853** | **6327** | **7744** | **45** |
| 16 | 5774 | 8165 | 5915 | 8063 | 6055 | 7958 | 6193 | 7851 | 6329 | 7742 | 44 |
| 17 | 5776 | 8163 | 5918 | 8061 | 6058 | 7956 | 6196 | 7850 | 6332 | 7740 | 43 |
| 18 | 5779 | 8161 | 5920 | 8059 | 6060 | 7955 | 6198 | 7848 | 6334 | 7738 | 42 |
| 19 | 5781 | 8160 | 5922 | 8058 | 6062 | 7953 | 6200 | 7846 | 6336 | 7737 | 41 |
| **20** | **5783** | **8158** | **5925** | **8056** | **6065** | **7951** | **6202** | **7844** | **6338** | **7735** | **40** |
| 21 | 5786 | 8156 | 5927 | 8054 | 6067 | 7949 | 6205 | 7842 | 6341 | 7733 | 39 |
| 22 | 5788 | 8155 | 5930 | 8052 | 6069 | 7948 | 6207 | 7841 | 6343 | 7731 | 38 |
| 23 | 5790 | 8153 | 5932 | 8051 | 6071 | 7946 | 6209 | 7839 | 6345 | 7729 | 37 |
| 24 | 5793 | 8151 | 5934 | 8049 | 6074 | 7944 | 6211 | 7837 | 6347 | 7727 | 36 |
| **25** | **5795** | **8150** | **5937** | **8047** | **6076** | **7942** | **6214** | **7835** | **6350** | **7725** | **35** |
| 26 | 5798 | 8148 | 5939 | 8045 | 6078 | 7941 | 6216 | 7833 | 6352 | 7724 | 34 |
| 27 | 5800 | 8146 | 5941 | 8044 | 6081 | 7939 | 6218 | 7832 | 6354 | 7722 | 33 |
| 28 | 5802 | 8145 | 5944 | 8042 | 6083 | 7937 | 6221 | 7830 | 6356 | 7720 | 32 |
| 29 | 5805 | 8143 | 5946 | 8040 | 6085 | 7935 | 6223 | 7828 | 6359 | 7718 | 31 |
| **30** | **5807** | **8141** | **5948** | **8039** | **6088** | **7934** | **6225** | **7826** | **6361** | **7716** | **30** |
| 31 | 5809 | 8139 | 5951 | 8037 | 6090 | 7932 | 6227 | 7824 | 6363 | 7714 | 29 |
| 32 | 5812 | 8138 | 5953 | 8035 | 6092 | 7930 | 6230 | 7822 | 6365 | 7713 | 28 |
| 33 | 5814 | 8136 | 5955 | 8033 | 6095 | 7928 | 6232 | 7821 | 6368 | 7711 | 27 |
| 34 | 5816 | 8134 | 5958 | 8032 | 6097 | 7926 | 6234 | 7819 | 6370 | 7709 | 26 |
| **35** | **5819** | **8133** | **5960** | **8030** | **6099** | **7925** | **6237** | **7817** | **6372** | **7707** | **25** |
| 36 | 5821 | 8131 | 5962 | 8028 | 6101 | 7923 | 6239 | 7815 | 6374 | 7705 | 24 |
| 37 | 5824 | 8129 | 5965 | 8026 | 6104 | 7921 | 6241 | 7813 | 6376 | 7703 | 23 |
| 38 | 5826 | 8128 | 5967 | 8025 | 6106 | 7919 | 6243 | 7812 | 6379 | 7701 | 22 |
| 39 | 5828 | 8126 | 5969 | 8023 | 6108 | 7918 | 6246 | 7810 | 6381 | 7700 | 21 |
| **40** | **5831** | **8124** | **5972** | **8021** | **6111** | **7916** | **6248** | **7808** | **6383** | **7698** | **20** |
| 41 | 5833 | 8123 | 5974 | 8020 | 6113 | 7914 | 6250 | 7806 | 6385 | 7696 | 19 |
| 42 | 5835 | 8121 | 5976 | 8018 | 6115 | 7912 | 6252 | 7804 | 6388 | 7694 | 18 |
| 43 | 5838 | 8119 | 5979 | 8016 | 6118 | 7910 | 6255 | 7802 | 6390 | 7692 | 17 |
| 44 | 5840 | 8117 | 5981 | 8014 | 6120 | 7909 | 6257 | 7801 | 6392 | 7690 | 16 |
| **45** | **5842** | **8116** | **5983** | **8013** | **6122** | **7907** | **6259** | **7799** | **6394** | **7688** | **15** |
| 46 | 5845 | 8114 | 5986 | 8011 | 6124 | 7905 | 6262 | 7797 | 6397 | 7687 | 14 |
| 47 | 5847 | 8112 | 5988 | 8009 | 6127 | 7903 | 6264 | 7795 | 6399 | 7685 | 13 |
| 48 | 5850 | 8111 | 5990 | 8007 | 6129 | 7902 | 6266 | 7793 | 6401 | 7683 | 12 |
| 49 | 5852 | 8109 | 5993 | 8006 | 6131 | 7900 | 6268 | 7792 | 6403 | 7681 | 11 |
| **50** | **5854** | **8107** | **5995** | **8004** | **6134** | **7898** | **6271** | **7790** | **6406** | **7679** | **10** |
| 51 | 5857 | 8106 | 5997 | 8002 | 6136 | 7896 | 6273 | 7788 | 6408 | 7677 | 9 |
| 52 | 5859 | 8104 | 6000 | 8000 | 6138 | 7894 | 6275 | 7786 | 6410 | 7675 | 8 |
| 53 | 5861 | 8102 | 6002 | 7999 | 6141 | 7893 | 6277 | 7784 | 6412 | 7674 | 7 |
| 54 | 5864 | 8100 | 6004 | 7997 | 6143 | 7891 | 6280 | 7782 | 6414 | 7672 | 6 |
| **55** | **5866** | **8099** | **6007** | **7995** | **6145** | **7889** | **6282** | **7781** | **6417** | **7670** | **5** |
| 56 | 5868 | 8097 | 6009 | 7993 | 6147 | 7887 | 6284 | 7779 | 6419 | 7668 | 4 |
| 57 | 5871 | 8095 | 6011 | 7992 | 6150 | 7885 | 6286 | 7777 | 6421 | 7666 | 3 |
| 58 | 5873 | 8094 | 6014 | 7990 | 6152 | 7884 | 6289 | 7775 | 6423 | 7664 | 2 |
| 59 | 5875 | 8092 | 6016 | 7988 | 6154 | 7882 | 6291 | 7773 | 6426 | 7662 | 1 |
| **60** | **5878** | **8090** | **6018** | **7986** | **6157** | **7880** | **6293** | **7771** | **6428** | **7660** | **0** |
| ′ | cos | sin | cos | sin | cos | sin | cos | sin | cos | sin | ′ |
| | 54° | | 53° | | 52° | | 51° | | 50° | | |

| | 40° | | 41° | | 42° | | 43° | | 44° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | sin | cos | sin | cos | sin | cos | sin | cos | sin | cos | ′ |
| 0 | 6428 | 7660 | 6561 | 7547 | 6691 | 7431 | 6820 | 7314 | 6947 | 7193 | 60 |
| 1 | 6430 | 7659 | 6563 | 7545 | 6693 | 7430 | 6822 | 7312 | 6949 | 7191 | 59 |
| 2 | 6432 | 7657 | 6565 | 7543 | 6696 | 7428 | 6824 | 7310 | 6951 | 7189 | 58 |
| 3 | 6435 | 7655 | 6567 | 7541 | 6698 | 7426 | 6826 | 7308 | 6953 | 7187 | 57 |
| 4 | 6437 | 7653 | 6569 | 7539 | 6700 | 7424 | 6828 | 7306 | 6955 | 7185 | 56 |
| 5 | 6439 | 7651 | 6572 | 7538 | 6702 | 7422 | 6831 | 7304 | 6957 | 7183 | 55 |
| 6 | 6441 | 7649 | 6574 | 7536 | 6704 | 7420 | 6833 | 7302 | 6959 | 7181 | 54 |
| 7 | 6443 | 7647 | 6576 | 7534 | 6706 | 7418 | 6835 | 7300 | 6961 | 7179 | 53 |
| 8 | 6446 | 7645 | 6578 | 7532 | 6709 | 7416 | 6837 | 7298 | 6963 | 7177 | 52 |
| 9 | 6448 | 7644 | 6580 | 7530 | 6711 | 7414 | 6839 | 7296 | 6965 | 7175 | 51 |
| 10 | 6450 | 7642 | 6583 | 7528 | 6713 | 7412 | 6841 | 7294 | 6967 | 7173 | 50 |
| 11 | 6452 | 7640 | 6585 | 7526 | 6715 | 7410 | 6843 | 7292 | 6970 | 7171 | 49 |
| 12 | 6455 | 7638 | 6587 | 7524 | 6717 | 7408 | 6845 | 7290 | 6972 | 7169 | 48 |
| 13 | 6457 | 7636 | 6589 | 7522 | 6719 | 7406 | 6848 | 7288 | 6974 | 7167 | 47 |
| 14 | 6459 | 7634 | 6591 | 7520 | 6722 | 7404 | 6850 | 7286 | 6976 | 7165 | 46 |
| 15 | 6461 | 7632 | 6593 | 7518 | 6724 | 7402 | 6852 | 7284 | 6978 | 7163 | 45 |
| 16 | 6463 | 7630 | 6596 | 7516 | 6726 | 7400 | 6854 | 7282 | 6980 | 7161 | 44 |
| 17 | 6466 | 7629 | 6598 | 7515 | 6728 | 7398 | 6856 | 7280 | 6982 | 7159 | 43 |
| 18 | 6468 | 7627 | 6600 | 7513 | 6730 | 7396 | 6858 | 7278 | 6984 | 7157 | 42 |
| 19 | 6470 | 7625 | 6602 | 7511 | 6732 | 7394 | 6860 | 7276 | 6986 | 7155 | 41 |
| 20 | 6472 | 7623 | 6604 | 7509 | 6734 | 7392 | 6862 | 7274 | 6988 | 7153 | 40 |
| 21 | 6475 | 7621 | 6607 | 7507 | 6737 | 7390 | 6865 | 7272 | 6990 | 7151 | 39 |
| 22 | 6477 | 7619 | 6609 | 7505 | 6739 | 7388 | 6867 | 7270 | 6992 | 7149 | 38 |
| 23 | 6479 | 7617 | 6611 | 7503 | 6741 | 7387 | 6869 | 7268 | 6995 | 7147 | 37 |
| 24 | 6481 | 7615 | 6613 | 7501 | 6743 | 7385 | 6871 | 7266 | 6997 | 7145 | 36 |
| 25 | 6483 | 7613 | 6615 | 7499 | 6745 | 7383 | 6873 | 7264 | 6999 | 7143 | 35 |
| 26 | 6486 | 7612 | 6617 | 7497 | 6747 | 7381 | 6875 | 7262 | 7001 | 7141 | 34 |
| 27 | 6488 | 7610 | 6620 | 7495 | 6749 | 7379 | 6877 | 7260 | 7003 | 7139 | 33 |
| 28 | 6490 | 7608 | 6622 | 7493 | 6752 | 7377 | 6879 | 7258 | 7005 | 7137 | 32 |
| 29 | 6492 | 7606 | 6624 | 7491 | 6754 | 7375 | 6881 | 7256 | 7007 | 7135 | 31 |
| 30 | 6494 | 7604 | 6626 | 7490 | 6756 | 7373 | 6884 | 7254 | 7009 | 7133 | 30 |
| 31 | 6497 | 7602 | 6628 | 7488 | 6758 | 7371 | 6886 | 7252 | 7011 | 7130 | 29 |
| 32 | 6499 | 7600 | 6631 | 7486 | 6760 | 7369 | 6888 | 7250 | 7013 | 7128 | 28 |
| 33 | 6501 | 7598 | 6633 | 7484 | 6762 | 7367 | 6890 | 7248 | 7015 | 7126 | 27 |
| 34 | 6503 | 7596 | 6635 | 7482 | 6764 | 7365 | 6892 | 7246 | 7017 | 7124 | 26 |
| 35 | 6506 | 7595 | 6637 | 7480 | 6767 | 7363 | 6894 | 7244 | 7019 | 7122 | 25 |
| 36 | 6508 | 7593 | 6639 | 7478 | 6769 | 7361 | 6896 | 7242 | 7022 | 7120 | 24 |
| 37 | 6510 | 7591 | 6641 | 7476 | 6771 | 7359 | 6898 | 7240 | 7024 | 7118 | 23 |
| 38 | 6512 | 7589 | 6644 | 7474 | 6773 | 7357 | 6900 | 7238 | 7026 | 7116 | 22 |
| 39 | 6514 | 7587 | 6646 | 7472 | 6775 | 7355 | 6903 | 7236 | 7028 | 7114 | 21 |
| 40 | 6517 | 7585 | 6648 | 7470 | 6777 | 7353 | 6905 | 7234 | 7030 | 7112 | 20 |
| 41 | 6519 | 7583 | 6650 | 7468 | 6779 | 7351 | 6907 | 7232 | 7032 | 7110 | 19 |
| 42 | 6521 | 7581 | 6652 | 7466 | 6782 | 7349 | 6909 | 7230 | 7034 | 7108 | 18 |
| 43 | 6523 | 7579 | 6654 | 7464 | 6784 | 7347 | 6911 | 7228 | 7036 | 7106 | 17 |
| 44 | 6525 | 7578 | 6657 | 7463 | 6786 | 7345 | 6913 | 7226 | 7038 | 7104 | 16 |
| 45 | 6528 | 7576 | 6659 | 7461 | 6788 | 7343 | 6915 | 7224 | 7040 | 7102 | 15 |
| 46 | 6530 | 7574 | 6661 | 7459 | 6790 | 7341 | 6917 | 7222 | 7042 | 7100 | 14 |
| 47 | 6532 | 7572 | 6663 | 7457 | 6792 | 7339 | 6919 | 7220 | 7044 | 7098 | 13 |
| 48 | 6534 | 7570 | 6665 | 7455 | 6794 | 7337 | 6921 | 7218 | 7046 | 7096 | 12 |
| 49 | 6536 | 7568 | 6667 | 7453 | 6797 | 7335 | 6924 | 7216 | 7048 | 7094 | 11 |
| 50 | 6539 | 7566 | 6670 | 7451 | 6799 | 7333 | 6926 | 7214 | 7050 | 7092 | 10 |
| 51 | 6541 | 7564 | 6672 | 7449 | 6801 | 7331 | 6928 | 7212 | 7053 | 7090 | 9 |
| 52 | 6543 | 7562 | 6674 | 7447 | 6803 | 7329 | 6930 | 7210 | 7055 | 7088 | 8 |
| 53 | 6545 | 7560 | 6676 | 7445 | 6805 | 7327 | 6932 | 7208 | 7057 | 7085 | 7 |
| 54 | 6547 | 7559 | 6678 | 7443 | 6807 | 7325 | 6934 | 7206 | 7059 | 7083 | 6 |
| 55 | 6550 | 7557 | 6680 | 7441 | 6809 | 7323 | 6936 | 7203 | 7061 | 7081 | 5 |
| 56 | 6552 | 7555 | 6683 | 7439 | 6811 | 7321 | 6938 | 7201 | 7063 | 7079 | 4 |
| 57 | 6554 | 7553 | 6685 | 7437 | 6814 | 7319 | 6940 | 7199 | 7065 | 7077 | 3 |
| 58 | 6556 | 7551 | 6687 | 7435 | 6816 | 7318 | 6942 | 7197 | 7067 | 7075 | 2 |
| 59 | 6558 | 7549 | 6689 | 7433 | 6818 | 7316 | 6944 | 7195 | 7069 | 7073 | 1 |
| 60 | 6561 | 7547 | 6691 | 7431 | 6820 | 7314 | 6947 | 7193 | 7071 | 7071 | 0 |
| ′ | cos | sin | cos | sin | cos | sin | cos | sin | cos | sin | ′ |
| | 49° | | 48° | | 47° | | 46° | | 45° | | |

| ′ | 0° | | 1° | | 2° | | 3° | | 4° | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | tan | cot | tan | cot | tan | cot | tan | cot | tan | cot | |
| 0 | 0000 | Infinite | 0175 | 57.2900 | 0349 | 28.6363 | 0524 | 19.0811 | 0699 | 14.3007 | 60 |
| 1 | 0003 | 3437.75 | 0177 | 56.3506 | 0352 | 28.3994 | 0527 | 18.9755 | 0702 | 14.2411 | 59 |
| 2 | 0006 | 1718.87 | 0180 | 55.4415 | 0355 | 28.1664 | 0530 | 18.8711 | 0705 | 14.1821 | 58 |
| 3 | 0009 | 1145.92 | 0183 | 54.5613 | 0358 | 27.9372 | 0533 | 18.7678 | 0708 | 14.1235 | 57 |
| 4 | 0012 | 859.436 | 0186 | 53.7086 | 0361 | 27.7117 | 0536 | 18.6656 | 0711 | 14.0655 | 56 |
| 5 | 0015 | 687.549 | 0189 | 52.8821 | 0364 | 27.4899 | 0539 | 18.5645 | 0714 | 14.0079 | 55 |
| 6 | 0017 | 572.957 | 0192 | 52.0807 | 0367 | 27.2715 | 0542 | 18.4645 | 0717 | 13.9507 | 54 |
| 7 | 0020 | 491.106 | 0195 | 51.3032 | 0370 | 27.0566 | 0544 | 18.3655 | 0720 | 13.8940 | 53 |
| 8 | 0023 | 429.718 | 0198 | 50.5485 | 0373 | 26.8450 | 0547 | 18.2677 | 0723 | 13.8378 | 52 |
| 9 | 0026 | 381.971 | 0201 | 49.8157 | 0375 | 26.6367 | 0550 | 18.1708 | 0726 | 13.7821 | 51 |
| 10 | 0029 | 343.774 | 0204 | 49.1039 | 0378 | 26.4316 | 0553 | 18.0750 | 0729 | 13.7267 | 50 |
| 11 | 0032 | 312.521 | 0207 | 48.4121 | 0381 | 26.2296 | 0556 | 17.9802 | 0731 | 13.6719 | 49 |
| 12 | 0035 | 286.478 | 0209 | 47.7395 | 0384 | 26.0307 | 0559 | 17.8863 | 0734 | 13.6174 | 48 |
| 13 | 0038 | 264.441 | 0212 | 47.0853 | 0387 | 25.8348 | 0562 | 17.7934 | 0737 | 13.5634 | 47 |
| 14 | 0041 | 245.552 | 0215 | 46.4489 | 0390 | 25.6418 | 0565 | 17.7015 | 0740 | 13.5098 | 46 |
| 15 | 0044 | 229.182 | 0218 | 45.8294 | 0393 | 25.4517 | 0568 | 17.6106 | 0743 | 13.4566 | 45 |
| 16 | 0047 | 214.858 | 0221 | 45.2261 | 0396 | 25.2644 | 0571 | 17.5205 | 0746 | 13.4039 | 44 |
| 17 | 0049 | 202.219 | 0224 | 44.6386 | 0399 | 25.0798 | 0574 | 17.4314 | 0749 | 13.3515 | 43 |
| 18 | 0052 | 190.984 | 0227 | 44.0661 | 0402 | 24.8978 | 0577 | 17.3432 | 0752 | 13.2996 | 42 |
| 19 | 0055 | 180.932 | 0230 | 43.5081 | 0405 | 24.7185 | 0580 | 17.2558 | 0755 | 13.2480 | 41 |
| 20 | 0058 | 171.885 | 0233 | 42.9641 | 0407 | 24.5418 | 0582 | 17.1693 | 0758 | 13.1969 | 40 |
| 21 | 0061 | 163.700 | 0236 | 42.4335 | 0410 | 24.3675 | 0585 | 17.0837 | 0761 | 13.1461 | 39 |
| 22 | 0064 | 156.259 | 0239 | 41.9158 | 0413 | 24.1957 | 0588 | 16.9990 | 0764 | 13.0958 | 38 |
| 23 | 0067 | 149.465 | 0241 | 41.4106 | 0416 | 24.0263 | 0591 | 16.9150 | 0767 | 13.0458 | 37 |
| 24 | 0070 | 143.237 | 0244 | 40.9174 | 0419 | 23.8593 | 0594 | 16.8319 | 0769 | 12.9962 | 36 |
| 25 | 0073 | 137.507 | 0247 | 40.4358 | 0422 | 23.6945 | 0597 | 16.7496 | 0772 | 12.9469 | 35 |
| 26 | 0076 | 132.219 | 0250 | 39.9655 | 0425 | 23.5321 | 0600 | 16.6681 | 0775 | 12.8981 | 34 |
| 27 | 0079 | 127.321 | 0253 | 39.5059 | 0428 | 23.3718 | 0603 | 16.5874 | 0778 | 12.8496 | 33 |
| 28 | 0081 | 122.774 | 0256 | 39.0568 | 0431 | 23.2137 | 0606 | 16.5075 | 0781 | 12.8014 | 32 |
| 29 | 0084 | 118.540 | 0259 | 38.6177 | 0434 | 23.0577 | 0609 | 16.4283 | 0784 | 12.7536 | 31 |
| 30 | 0087 | 114.589 | 0262 | 38.1885 | 0437 | 22.9038 | 0612 | 16.3499 | 0787 | 12.7062 | 30 |
| 31 | 0090 | 110.892 | 0265 | 37.7686 | 0440 | 22.7519 | 0615 | 16.2722 | 0790 | 12.6591 | 29 |
| 32 | 0093 | 107.426 | 0268 | 37.3579 | 0442 | 22.6020 | 0617 | 16.1952 | 0793 | 12.6124 | 28 |
| 33 | 0096 | 104.171 | 0271 | 36.9560 | 0445 | 22.4541 | 0620 | 16.1190 | 0796 | 12.5660 | 27 |
| 34 | 0099 | 101.107 | 0274 | 36.5627 | 0448 | 22.3081 | 0623 | 16.0435 | 0799 | 12.5199 | 26 |
| 35 | 0102 | 98.2179 | 0276 | 36.1776 | 0451 | 22.1640 | 0626 | 15.9687 | 0802 | 12.4742 | 25 |
| 36 | 0105 | 95.4895 | 0279 | 35.8006 | 0454 | 22.0217 | 0629 | 15.8945 | 0805 | 12.4288 | 24 |
| 37 | 0108 | 92.9085 | 0282 | 35.4313 | 0457 | 21.8813 | 0632 | 15.8211 | 0808 | 12.3838 | 23 |
| 38 | 0111 | 90.4633 | 0285 | 35.0695 | 0460 | 21.7426 | 0635 | 15.7483 | 0810 | 12.3390 | 22 |
| 39 | 0113 | 88.1436 | 0288 | 34.7151 | 0463 | 21.6056 | 0638 | 15.6762 | 0813 | 12.2946 | 21 |
| 40 | 0116 | 85.9398 | 0291 | 34.3678 | 0466 | 21.4704 | 0641 | 15.6048 | 0816 | 12.2505 | 20 |
| 41 | 0119 | 83.8435 | 0294 | 34.0273 | 0469 | 21.3369 | 0644 | 15.5340 | 0819 | 12.2067 | 19 |
| 42 | 0122 | 81.8470 | 0297 | 33.6935 | 0472 | 21.2049 | 0647 | 15.4638 | 0822 | 12.1632 | 18 |
| 43 | 0125 | 79.9434 | 0300 | 33.3662 | 0475 | 21.0747 | 0650 | 15.3943 | 0825 | 12.1201 | 17 |
| 44 | 0128 | 78.1263 | 0303 | 33.0452 | 0477 | 20.9460 | 0653 | 15.3254 | 0828 | 12.0772 | 16 |
| 45 | 0131 | 76.3900 | 0306 | 32.7303 | 0480 | 20.8188 | 0655 | 15.2571 | 0831 | 12.0346 | 15 |
| 46 | 0134 | 74.7292 | 0308 | 32.4213 | 0483 | 20.6932 | 0658 | 15.1893 | 0834 | 11.9923 | 14 |
| 47 | 0137 | 73.1390 | 0311 | 32.1181 | 0486 | 20.5691 | 0661 | 15.1222 | 0837 | 11.9504 | 13 |
| 48 | 0140 | 71.6151 | 0314 | 31.8205 | 0489 | 20.4465 | 0664 | 15.0557 | 0840 | 11.9087 | 12 |
| 49 | 0143 | 70.1533 | 0317 | 31.5284 | 0492 | 20.3253 | 0667 | 14.9898 | 0843 | 11.8673 | 11 |
| 50 | 0146 | 68.7501 | 0320 | 31.2416 | 0495 | 20.2056 | 0670 | 14.9244 | 0846 | 11.8262 | 10 |
| 51 | 0148 | 67.4019 | 0323 | 30.9599 | 0498 | 20.0872 | 0673 | 14.8596 | 0849 | 11.7853 | 9 |
| 52 | 0151 | 66.1055 | 0326 | 30.6833 | 0501 | 19.9702 | 0676 | 14.7954 | 0851 | 11.7448 | 8 |
| 53 | 0154 | 64.8580 | 0329 | 30.4116 | 0504 | 19.8546 | 0679 | 14.7317 | 0854 | 11.7045 | 7 |
| 54 | 0157 | 63.6567 | 0332 | 30.1446 | 0507 | 19.7403 | 0682 | 14.6685 | 0857 | 11.6645 | 6 |
| 55 | 0160 | 62.4992 | 0335 | 29.8823 | 0509 | 19.6273 | 0685 | 14.6059 | 0860 | 11.6248 | 5 |
| 56 | 0163 | 61.3829 | 0338 | 29.6245 | 0512 | 19.5156 | 0688 | 14.5438 | 0863 | 11.5853 | 4 |
| 57 | 0166 | 60.3058 | 0340 | 29.3711 | 0515 | 19.4051 | 0690 | 14.4823 | 0866 | 11.5461 | 3 |
| 58 | 0169 | 59.2659 | 0343 | 29.1220 | 0518 | 19.2959 | 0693 | 14.4212 | 0869 | 11.5072 | 2 |
| 59 | 0172 | 58.2612 | 0346 | 28.8771 | 0521 | 19.1879 | 0696 | 14.3607 | 0872 | 11.4685 | 1 |
| 60 | 0175 | 57.2900 | 0349 | 28.6363 | 0524 | 19.0811 | 0699 | 14.3007 | 0875 | 11.4301 | 0 |
| ′ | cot | tan | cot | tan | cot | tan | cot | tan | cot | tan | ′ |
| | 89° | | 88° | | 87° | | 86° | | 85° | | |

| | 5° | | 6° | | 7° | | 8° | | 9° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | tan | cot | tan | cot | tan | cot | tan | cot | tan | cot | ′ |
| **0** | **0875** | **11.4301** | **1051** | **9.5144** | **1228** | **8.1443** | **1405** | **7.1154** | **1584** | **6.3138** | **60** |
| 1 | 0878 | 11.3919 | 1054 | 9.4878 | 1231 | 8.1248 | 1408 | 7.1004 | 1587 | 6.3019 | 59 |
| 2 | 0881 | 11.3540 | 1057 | 9.4614 | 1234 | 8.1054 | 1411 | 7.0855 | 1590 | 6.2901 | 58 |
| 3 | 0884 | 11.3163 | 1060 | 9.4352 | 1237 | 8.0860 | 1414 | 7.0706 | 1593 | 6.2783 | 57 |
| 4 | 0887 | 11.2789 | 1063 | 9.4090 | 1240 | 8.0667 | 1417 | 7.0558 | 1596 | 6.2666 | 56 |
| **5** | **0890** | **11.2417** | **1066** | **9.3831** | **1243** | **8.0476** | **1420** | **7.0410** | **1599** | **6.2549** | **55** |
| 6 | 0892 | 11.2048 | 1069 | 9.3572 | 1246 | 8.0285 | 1423 | 7.0264 | 1602 | 6.2432 | 54 |
| 7 | 0895 | 11.1681 | 1072 | 9.3315 | 1249 | 8.0095 | 1426 | 7.0117 | 1605 | 6.2316 | 53 |
| 8 | 0898 | 11.1316 | 1075 | 9.3060 | 1251 | 7.9906 | 1429 | 6.9972 | 1608 | 6.2200 | 52 |
| 9 | 0901 | 11.0954 | 1078 | 9.2806 | 1254 | 7.9718 | 1432 | 6.9827 | 1611 | 6.2085 | 51 |
| **10** | **0904** | **11.0594** | **1080** | **9.2553** | **1257** | **7.9530** | **1435** | **6.9682** | **1614** | **6.1970** | **50** |
| 11 | 0907 | 11.0237 | 1083 | 9.2302 | 1260 | 7.9344 | 1438 | 6.9538 | 1617 | 6.1856 | 49 |
| 12 | 0910 | 10.9882 | 1086 | 9.2052 | 1263 | 7.9158 | 1441 | 6.9395 | 1620 | 6.1742 | 48 |
| 13 | 0913 | 10.9529 | 1089 | 9.1803 | 1266 | 7.8973 | 1444 | 6.9252 | 1623 | 6.1628 | 47 |
| 14 | 0916 | 10.9178 | 1092 | 9.1555 | 1269 | 7.8789 | 1447 | 6.9110 | 1626 | 6.1515 | 46 |
| **15** | **0919** | **10.8829** | **1095** | **9.1309** | **1272** | **7.8606** | **1450** | **6.8969** | **1629** | **6.1402** | **45** |
| 16 | 0922 | 10.8483 | 1098 | 9.1065 | 1275 | 7.8424 | 1453 | 6.8828 | 1632 | 6.1290 | 44 |
| 17 | 0925 | 10.8139 | 1101 | 9.0821 | 1278 | 7.8243 | 1456 | 6.8687 | 1635 | 6.1178 | 43 |
| 18 | 0928 | 10.7797 | 1104 | 9.0579 | 1281 | 7.8062 | 1459 | 6.8548 | 1638 | 6.1066 | 42 |
| 19 | 0931 | 10.7457 | 1107 | 9.0338 | 1284 | 7.7883 | 1462 | 6.8408 | 1641 | 6.0955 | 41 |
| **20** | **0934** | **10.7119** | **1110** | **9.0098** | **1287** | **7.7704** | **1465** | **6.8269** | **1644** | **6.0844** | **40** |
| 21 | 0936 | 10.6783 | 1113 | 8.9860 | 1290 | 7.7525 | 1468 | 6.8131 | 1647 | 6.0734 | 39 |
| 22 | 0939 | 10.6450 | 1116 | 8.9623 | 1293 | 7.7348 | 1471 | 6.7994 | 1650 | 6.0624 | 38 |
| 23 | 0942 | 10.6118 | 1119 | 8.9387 | 1296 | 7.7171 | 1474 | 6.7856 | 1653 | 6.0514 | 37 |
| 24 | 0945 | 10.5789 | 1122 | 8.9152 | 1299 | 7.6996 | 1477 | 6.7720 | 1655 | 6.0405 | 36 |
| **25** | **0948** | **10.5462** | **1125** | **8.8919** | **1302** | **7.6821** | **1480** | **6.7584** | **1658** | **6.0296** | **35** |
| 26 | 0951 | 10.5136 | 1128 | 8.8686 | 1305 | 7.6647 | 1483 | 6.7448 | 1661 | 6.0188 | 34 |
| 27 | 0954 | 10.4813 | 1131 | 8.8455 | 1308 | 7.6473 | 1486 | 6.7313 | 1664 | 6.0080 | 33 |
| 28 | 0957 | 10.4491 | 1134 | 8.8225 | 1311 | 7.6301 | 1489 | 6.7179 | 1667 | 5.9972 | 32 |
| 29 | 0960 | 10.4172 | 1136 | 8.7996 | 1314 | 7.6129 | 1492 | 6.7045 | 1670 | 5.9865 | 31 |
| **30** | **0963** | **10.3854** | **1139** | **8.7769** | **1317** | **7.5958** | **1495** | **6.6912** | **1673** | **5.9758** | **30** |
| 31 | 0966 | 10.3538 | 1142 | 8.7542 | 1319 | 7.5787 | 1497 | 6.6779 | 1676 | 5.9651 | 29 |
| 32 | 0969 | 10.3224 | 1145 | 8.7317 | 1322 | 7.5618 | 1500 | 6.6646 | 1679 | 5.9545 | 28 |
| 33 | 0972 | 10.2913 | 1148 | 8.7093 | 1325 | 7.5449 | 1503 | 6.6514 | 1682 | 5.9439 | 27 |
| 34 | 0975 | 10.2602 | 1151 | 8.6870 | 1328 | 7.5281 | 1506 | 6.6383 | 1685 | 5.9333 | 26 |
| **35** | **0978** | **10.2294** | **1154** | **8.6648** | **1331** | **7.5113** | **1509** | **6.6252** | **1688** | **5.9228** | **25** |
| 36 | 0981 | 10.1988 | 1157 | 8.6427 | 1334 | 7.4947 | 1512 | 6.6122 | 1691 | 5.9124 | 24 |
| 37 | 0983 | 10.1683 | 1160 | 8.6208 | 1337 | 7.4781 | 1515 | 6.5992 | 1694 | 5.9019 | 23 |
| 38 | 0986 | 10.1381 | 1163 | 8.5989 | 1340 | 7.4615 | 1518 | 6.5863 | 1697 | 5.8915 | 22 |
| 39 | 0989 | 10.1080 | 1166 | 8.5772 | 1343 | 7.4451 | 1521 | 6.5734 | 1700 | 5.8811 | 21 |
| **40** | **0992** | **10.0780** | **1169** | **8.5555** | **1346** | **7.4287** | **1524** | **6.5606** | **1703** | **5.8708** | **20** |
| 41 | 0995 | 10.0483 | 1172 | 8.5340 | 1349 | 7.4124 | 1527 | 6.5478 | 1706 | 5.8605 | 19 |
| 42 | 0998 | 10.0187 | 1175 | 8.5126 | 1352 | 7.3962 | 1530 | 6.5350 | 1709 | 5.8502 | 18 |
| 43 | 1001 | 9.9893 | 1178 | 8.4913 | 1355 | 7.3800 | 1533 | 6.5223 | 1712 | 5.8400 | 17 |
| 44 | 1004 | 9.9601 | 1181 | 8.4701 | 1358 | 7.3639 | 1536 | 6.5097 | 1715 | 5.8298 | 16 |
| **45** | **1007** | **9.9310** | **1184** | **8.4490** | **1361** | **7.3479** | **1539** | **6.4971** | **1718** | **5.8197** | **15** |
| 46 | 1010 | 9.9021 | 1187 | 8.4280 | 1364 | 7.3319 | 1542 | 6.4846 | 1721 | 5.8095 | 14 |
| 47 | 1013 | 9.8734 | 1189 | 8.4071 | 1367 | 7.3160 | 1545 | 6.4721 | 1724 | 5.7994 | 13 |
| 48 | 1016 | 9.8448 | 1192 | 8.3863 | 1370 | 7.3002 | 1548 | 6.4596 | 1727 | 5.7894 | 12 |
| 49 | 1019 | 9.8164 | 1195 | 8.3656 | 1373 | 7.2844 | 1551 | 6.4472 | 1730 | 5.7794 | 11 |
| **50** | **1022** | **9.7882** | **1198** | **8.3450** | **1376** | **7.2687** | **1554** | **6.4348** | **1733** | **5.7694** | **10** |
| 51 | 1025 | 9.7601 | 1201 | 8.3245 | 1379 | 7.2531 | 1557 | 6.4225 | 1736 | 5.7594 | 9 |
| 52 | 1028 | 9.7322 | 1204 | 8.3041 | 1382 | 7.2375 | 1560 | 6.4103 | 1739 | 5.7495 | 8 |
| 53 | 1030 | 9.7044 | 1207 | 8.2838 | 1385 | 7.2220 | 1563 | 6.3980 | 1742 | 5.7396 | 7 |
| 54 | 1033 | 9.6768 | 1210 | 8.2636 | 1388 | 7.2066 | 1566 | 6.3859 | 1745 | 5.7297 | 6 |
| **55** | **1036** | **9.6493** | **1213** | **8.2434** | **1391** | **7.1912** | **1569** | **6.3737** | **1748** | **5.7199** | **5** |
| 56 | 1039 | 9.6220 | 1216 | 8.2234 | 1394 | 7.1759 | 1572 | 6.3617 | 1751 | 5.7101 | 4 |
| 57 | 1042 | 9.5949 | 1219 | 8.2035 | 1397 | 7.1607 | 1575 | 6.3496 | 1754 | 5.7004 | 3 |
| 58 | 1045 | 9.5679 | 1222 | 8.1837 | 1399 | 7.1455 | 1578 | 6.3376 | 1757 | 5.6906 | 2 |
| 59 | 1048 | 9.5411 | 1225 | 8.1640 | 1402 | 7.1304 | 1581 | 6.3257 | 1760 | 5.6809 | 1 |
| **60** | **1051** | **9.5144** | **1228** | **8.1443** | **1405** | **7.1154** | **1584** | **6.3138** | **1763** | **5.6713** | **0** |
| ′ | cot | tan | cot | tan | cot | tan | cot | tan | cot | tan | ′ |
| | 84° | | 83° | | 82° | | 81° | | 80° | | |

| ′ | 10° | | 11° | | 12° | | 13° | | 14° | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | tan | cot | tan | cot | tan | cot | tan | cot | tan | cot | |
| 0 | 1763 | 5.6713 | 1944 | 5.1446 | 2126 | 4.7046 | 2309 | 4.3315 | 2493 | 4.0108 | 60 |
| 1 | 1766 | 5.6617 | 1947 | 5.1366 | 2129 | 4.6979 | 2312 | 4.3257 | 2496 | 4.0058 | 59 |
| 2 | 1769 | 5.6521 | 1950 | 5.1286 | 2132 | 4.6912 | 2315 | 4.3200 | 2499 | 4.0009 | 58 |
| 3 | 1772 | 5.6425 | 1953 | 5.1207 | 2135 | 4.6845 | 2318 | 4.3143 | 2503 | 3.9959 | 57 |
| 4 | 1775 | 5.6330 | 1956 | 5.1128 | 2138 | 4.6779 | 2321 | 4.3086 | 2506 | 3.9910 | 56 |
| 5 | 1778 | 5.6234 | 1959 | 5.1049 | 2141 | 4.6712 | 2324 | 4.3029 | 2509 | 3.9861 | 55 |
| 6 | 1781 | 5.6140 | 1962 | 5.0970 | 2144 | 4.6646 | 2327 | 4.2972 | 2512 | 3.9812 | 54 |
| 7 | 1784 | 5.6045 | 1965 | 5.0892 | 2147 | 4.6580 | 2330 | 4.2916 | 2515 | 3.9763 | 53 |
| 8 | 1787 | 5.5951 | 1968 | 5.0814 | 2150 | 4.6514 | 2333 | 4.2859 | 2518 | 3.9714 | 52 |
| 9 | 1790 | 5.5857 | 1971 | 5.0736 | 2153 | 4.6448 | 2336 | 4.2803 | 2521 | 3.9665 | 51 |
| 10 | 1793 | 5.5764 | 1974 | 5.0658 | 2156 | 4.6382 | 2339 | 4.2747 | 2524 | 3.9617 | 50 |
| 11 | 1796 | 5.5671 | 1977 | 5.0581 | 2159 | 4.6317 | 2342 | 4.2691 | 2527 | 3.9568 | 49 |
| 12 | 1799 | 5.5578 | 1980 | 5.0504 | 2162 | 4.6252 | 2345 | 4.2635 | 2530 | 3.9520 | 48 |
| 13 | 1802 | 5.5485 | 1983 | 5.0427 | 2165 | 4.6187 | 2349 | 4.2580 | 2533 | 3.9471 | 47 |
| 14 | 1805 | 5.5393 | 1986 | 5.0350 | 2168 | 4.6122 | 2352 | 4.2524 | 2537 | 3.9423 | 46 |
| 15 | 1808 | 5.5301 | 1989 | 5.0273 | 2171 | 4.6057 | 2355 | 4.2468 | 2540 | 3.9375 | 45 |
| 16 | 1811 | 5.5209 | 1992 | 5.0197 | 2174 | 4.5993 | 2358 | 4.2413 | 2543 | 3.9327 | 44 |
| 17 | 1814 | 5.5118 | 1995 | 5.0121 | 2177 | 4.5928 | 2361 | 4.2358 | 2546 | 3.9279 | 43 |
| 18 | 1817 | 5.5026 | 1998 | 5.0045 | 2180 | 4.5864 | 2364 | 4.2303 | 2549 | 3.9232 | 42 |
| 19 | 1820 | 5.4936 | 2001 | 4.9969 | 2183 | 4.5800 | 2367 | 4.2248 | 2552 | 3.9184 | 41 |
| 20 | 1823 | 5.4845 | 2004 | 4.9894 | 2186 | 4.5736 | 2370 | 4.2193 | 2555 | 3.9136 | 40 |
| 21 | 1826 | 5.4755 | 2007 | 4.9819 | 2189 | 4.5673 | 2373 | 4.2139 | 2558 | 3.9089 | 39 |
| 22 | 1829 | 5.4665 | 2010 | 4.9744 | 2193 | 4.5609 | 2376 | 4.2084 | 2561 | 3.9042 | 38 |
| 23 | 1832 | 5.4575 | 2013 | 4.9669 | 2196 | 4.5546 | 2379 | 4.2030 | 2564 | 3.8995 | 37 |
| 24 | 1835 | 5.4486 | 2016 | 4.9594 | 2199 | 4.5483 | 2382 | 4.1976 | 2568 | 3.8947 | 36 |
| 25 | 1838 | 5.4397 | 2019 | 4.9520 | 2202 | 4.5420 | 2385 | 4.1922 | 2571 | 3.8900 | 35 |
| 26 | 1841 | 5.4308 | 2022 | 4.9446 | 2205 | 4.5357 | 2388 | 4.1868 | 2574 | 3.8854 | 34 |
| 27 | 1844 | 5.4219 | 2025 | 4.9372 | 2208 | 4.5294 | 2392 | 4.1814 | 2577 | 3.8807 | 33 |
| 28 | 1847 | 5.4131 | 2028 | 4.9298 | 2211 | 4.5232 | 2395 | 4.1760 | 2580 | 3.8760 | 32 |
| 29 | 1850 | 5.4043 | 2031 | 4.9225 | 2214 | 4.5169 | 2398 | 4.1706 | 2583 | 3.8714 | 31 |
| 30 | 1853 | 5.3955 | 2035 | 4.9152 | 2217 | 4.5107 | 2401 | 4.1653 | 2586 | 3.8667 | 30 |
| 31 | 1856 | 5.3868 | 2038 | 4.9078 | 2220 | 4.5045 | 2404 | 4.1600 | 2589 | 3.8621 | 29 |
| 32 | 1859 | 5.3781 | 2041 | 4.9006 | 2223 | 4.4983 | 2407 | 4.1547 | 2592 | 3.8575 | 28 |
| 33 | 1862 | 5.3694 | 2044 | 4.8933 | 2226 | 4.4922 | 2410 | 4.1493 | 2595 | 3.8528 | 27 |
| 34 | 1865 | 5.3607 | 2047 | 4.8860 | 2229 | 4.4860 | 2413 | 4.1441 | 2599 | 3.8482 | 26 |
| 35 | 1868 | 5.3521 | 2050 | 4.8788 | 2232 | 4.4799 | 2416 | 4.1388 | 2602 | 3.8436 | 25 |
| 36 | 1871 | 5.3435 | 2053 | 4.8716 | 2235 | 4.4737 | 2419 | 4.1335 | 2605 | 3.8391 | 24 |
| 37 | 1874 | 5.3349 | 2056 | 4.8644 | 2238 | 4.4676 | 2422 | 4.1282 | 2608 | 3.8345 | 23 |
| 38 | 1877 | 5.3263 | 2059 | 4.8573 | 2241 | 4.4615 | 2425 | 4.1230 | 2611 | 3.8299 | 22 |
| 39 | 1880 | 5.3178 | 2062 | 4.8501 | 2244 | 4.4555 | 2428 | 4.1178 | 2614 | 3.8254 | 21 |
| 40 | 1883 | 5.3093 | 2065 | 4.8430 | 2247 | 4.4494 | 2432 | 4.1126 | 2617 | 3.8208 | 20 |
| 41 | 1887 | 5.3008 | 2068 | 4.8359 | 2251 | 4.4434 | 2435 | 4.1074 | 2620 | 3.8163 | 19 |
| 42 | 1890 | 5.2924 | 2071 | 4.8288 | 2254 | 4.4374 | 2438 | 4.1022 | 2623 | 3.8118 | 18 |
| 43 | 1893 | 5.2839 | 2074 | 4.8218 | 2257 | 4.4313 | 2441 | 4.0970 | 2627 | 3.8073 | 17 |
| 44 | 1896 | 5.2755 | 2077 | 4.8147 | 2260 | 4.4253 | 2444 | 4.0918 | 2630 | 3.8028 | 16 |
| 45 | 1899 | 5.2672 | 2080 | 4.8077 | 2263 | 4.4194 | 2447 | 4.0867 | 2633 | 3.7983 | 15 |
| 46 | 1902 | 5.2588 | 2083 | 4.8007 | 2266 | 4.4134 | 2450 | 4.0815 | 2636 | 3.7938 | 14 |
| 47 | 1905 | 5.2505 | 2086 | 4.7937 | 2269 | 4.4075 | 2453 | 4.0764 | 2639 | 3.7893 | 13 |
| 48 | 1908 | 5.2422 | 2089 | 4.7867 | 2272 | 4.4015 | 2456 | 4.0713 | 2642 | 3.7848 | 12 |
| 49 | 1911 | 5.2339 | 2092 | 4.7798 | 2275 | 4.3956 | 2459 | 4.0662 | 2645 | 3.7804 | 11 |
| 50 | 1914 | 5.2257 | 2095 | 4.7729 | 2278 | 4.3897 | 2462 | 4.0611 | 2648 | 3.7760 | 10 |
| 51 | 1917 | 5.2174 | 2098 | 4.7659 | 2281 | 4.3838 | 2465 | 4.0560 | 2651 | 3.7715 | 9 |
| 52 | 1920 | 5.2092 | 2101 | 4.7591 | 2284 | 4.3779 | 2469 | 4.0509 | 2655 | 3.7671 | 8 |
| 53 | 1923 | 5.2011 | 2104 | 4.7522 | 2287 | 4.3721 | 2472 | 4.0459 | 2658 | 3.7627 | 7 |
| 54 | 1926 | 5.1929 | 2107 | 4.7453 | 2290 | 4.3662 | 2475 | 4.0408 | 2661 | 3.7583 | 6 |
| 55 | 1929 | 5.1848 | 2110 | 4.7385 | 2293 | 4.3604 | 2478 | 4.0358 | 2664 | 3.7539 | 5 |
| 56 | 1932 | 5.1767 | 2113 | 4.7317 | 2296 | 4.3546 | 2481 | 4.0308 | 2667 | 3.7495 | 4 |
| 57 | 1935 | 5.1686 | 2116 | 4.7249 | 2299 | 4.3488 | 2484 | 4.0257 | 2670 | 3.7451 | 3 |
| 58 | 1938 | 5.1606 | 2119 | 4.7181 | 2303 | 4.3430 | 2487 | 4.0207 | 2673 | 3.7408 | 2 |
| 59 | 1941 | 5.1526 | 2123 | 4.7114 | 2306 | 4.3372 | 2490 | 4.0158 | 2676 | 3.7364 | 1 |
| 60 | 1944 | 5.1446 | 2126 | 4.7046 | 2309 | 4.3315 | 2493 | 4.0108 | 2679 | 3.7321 | 0 |
| ′ | cot | tan | cot | tan | cot | tan | cot | tan | cot | tan | ′ |
| | 79° | | 78° | | 77° | | 76° | | 75° | | |

| ′ | 15° | | 16° | | 17° | | 18° | | 19° | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | tan | cot | tan | cot | tan | cot | tan | cot | tan | cot | |
| **0** | **2679** | **3.7321** | **2867** | **3.4874** | **3057** | **3.2709** | **3249** | **3.0777** | **3443** | **2.9042** | **60** |
| 1 | 2683 | 3.7277 | 2871 | 3.4836 | 3060 | 3.2675 | 3252 | 3.0746 | 3447 | 2.9015 | 59 |
| 2 | 2686 | 3.7234 | 2874 | 3.4798 | 3064 | 3.2641 | 3256 | 3.0716 | 3450 | 2.8987 | 58 |
| 3 | 2689 | 3.7191 | 2877 | 3.4760 | 3067 | 3.2607 | 3259 | 3.0686 | 3453 | 2.8960 | 57 |
| 4 | 2692 | 3.7148 | 2880 | 3.4722 | 3070 | 3.2573 | 3262 | 3.0655 | 3456 | 2.8933 | 56 |
| **5** | **2695** | **3.7105** | **2883** | **3.4684** | **3073** | **3.2539** | **3255** | **3.0625** | **3460** | **2.8905** | **55** |
| 6 | 2698 | 3.7062 | 2886 | 3.4646 | 3076 | 3.2506 | 3269 | 3.0595 | 3463 | 2.8878 | 54 |
| 7 | 2701 | 3.7019 | 2890 | 3.4608 | 3080 | 3.2472 | 3272 | 3.0565 | 3466 | 2.8851 | 53 |
| 8 | 2704 | 3.6976 | 2893 | 3.4570 | 3083 | 3.2438 | 3275 | 3.0535 | 3469 | 2.8824 | 52 |
| 9 | 2708 | 3.6933 | 2896 | 3.4533 | 3086 | 3.2405 | 3278 | 3.0505 | 3473 | 2.8797 | 51 |
| **10** | **2711** | **3.6891** | **2899** | **3.4495** | **3089** | **3.2371** | **3281** | **3.0475** | **3476** | **2.8770** | **50** |
| 11 | 2714 | 3.6848 | 2902 | 3.4458 | 3092 | 3.2338 | 3285 | 3.0445 | 3479 | 2.8743 | 49 |
| 12 | 2717 | 3.6806 | 2905 | 3.4420 | 3096 | 3.2305 | 3288 | 3.0415 | 3482 | 2.8716 | 48 |
| 13 | 2720 | 3.6764 | 2908 | 3.4383 | 3099 | 3.2272 | 3291 | 3.0385 | 3486 | 2.8689 | 47 |
| 14 | 2723 | 3.6722 | 2912 | 3.4346 | 3102 | 3.2238 | 3294 | 3.0356 | 3489 | 2.8662 | 46 |
| **15** | **2726** | **3.6680** | **2915** | **3.4308** | **3105** | **3.2205** | **3298** | **3.0326** | **3492** | **2.8636** | **45** |
| 16 | 2729 | 3.6638 | 2918 | 3.4271 | 3108 | 3.2172 | 3301 | 3.0296 | 3495 | 2.8609 | 44 |
| 17 | 2733 | 3.6596 | 2921 | 3.4234 | 3111 | 3.2139 | 3304 | 3.0267 | 3499 | 2.8582 | 43 |
| 18 | 2736 | 3.6554 | 2924 | 3.4197 | 3115 | 3.2106 | 3307 | 3.0237 | 3502 | 2.8556 | 42 |
| 19 | 2739 | 3.6512 | 2927 | 3.4160 | 3118 | 3.2073 | 3310 | 3.0208 | 3505 | 2.8529 | 41 |
| **20** | **2742** | **3.6470** | **2931** | **3.4124** | **3121** | **3.2041** | **3314** | **3.0178** | **3508** | **2.8502** | **40** |
| 21 | 2745 | 3.6429 | 2934 | 3.4087 | 3124 | 3.2008 | 3317 | 3.0149 | 3512 | 2.8476 | 39 |
| 22 | 2748 | 3.6387 | 2937 | 3.4050 | 3127 | 3.1975 | 3320 | 3.0120 | 3515 | 2.8449 | 38 |
| 23 | 2751 | 3.6346 | 2940 | 3.4014 | 3131 | 3.1943 | 3323 | 3.0090 | 3518 | 2.8423 | 37 |
| 24 | 2754 | 3.6305 | 2943 | 3.3977 | 3134 | 3.1910 | 3327 | 3.0061 | 3522 | 2.8397 | 36 |
| **25** | **2758** | **3.6264** | **2946** | **3.3941** | **3137** | **3.1878** | **3330** | **3.0032** | **3525** | **2.8370** | **35** |
| 26 | 2761 | 3.6222 | 2949 | 3.3904 | 3140 | 3.1845 | 3333 | 3.0003 | 3528 | 2.8344 | 34 |
| 27 | 2764 | 3.6181 | 2953 | 3.3868 | 3143 | 3.1813 | 3336 | 2.9974 | 3531 | 2.8318 | 33 |
| 28 | 2767 | 3.6140 | 2956 | 3.3832 | 3147 | 3.1780 | 3339 | 2.9945 | 3535 | 2.8291 | 32 |
| 29 | 2770 | 3.6100 | 2959 | 3.3796 | 3150 | 3.1748 | 3343 | 2.9916 | 3538 | 2.8265 | 31 |
| **30** | **2773** | **3.6059** | **2962** | **3.3759** | **3153** | **3.1716** | **3346** | **2.9887** | **3541** | **2.8239** | **30** |
| 31 | 2776 | 3.6018 | 2965 | 3.3723 | 3156 | 3.1684 | 3349 | 2.9858 | 3544 | 2.8213 | 29 |
| 32 | 2780 | 3.5978 | 2968 | 3.3687 | 3159 | 3.1652 | 3352 | 2.9829 | 3548 | 2.8187 | 28 |
| 33 | 2783 | 3.5937 | 2972 | 3.3652 | 3163 | 3.1620 | 3356 | 2.9800 | 3551 | 2.8161 | 27 |
| 34 | 2786 | 3.5897 | 2975 | 3.3616 | 3166 | 3.1588 | 3359 | 2.9772 | 3554 | 2.8135 | 26 |
| **35** | **2789** | **3.5856** | **2978** | **3.3580** | **3169** | **3.1556** | **3362** | **2.9743** | **3558** | **2.8109** | **25** |
| 36 | 2792 | 3.5816 | 2981 | 3.3544 | 3172 | 3.1524 | 3365 | 2.9714 | 3561 | 2.8083 | 24 |
| 37 | 2795 | 3.5776 | 2984 | 3.3509 | 3175 | 3.1492 | 3369 | 2.9686 | 3564 | 2.8057 | 23 |
| 38 | 2798 | 3.5736 | 2987 | 3.3473 | 3179 | 3.1460 | 3372 | 2.9657 | 3567 | 2.8032 | 22 |
| 39 | 2801 | 3.5696 | 2991 | 3.3438 | 3182 | 3.1429 | 3375 | 2.9629 | 3571 | 2.8006 | 21 |
| **40** | **2805** | **3.5656** | **2994** | **3.3402** | **3185** | **3.1397** | **3378** | **2.9600** | **3574** | **2.7980** | **20** |
| 41 | 2808 | 3.5616 | 2997 | 3.3367 | 3188 | 3.1366 | 3382 | 2.9572 | 3577 | 2.7955 | 19 |
| 42 | 2811 | 3.5576 | 3000 | 3.3332 | 3191 | 3.1334 | 3385 | 2.9544 | 3581 | 2.7929 | 18 |
| 43 | 2814 | 3.5536 | 3003 | 3.3297 | 3195 | 3.1303 | 3388 | 2.9515 | 3584 | 2.7903 | 17 |
| 44 | 2817 | 3.5497 | 3006 | 3.3261 | 3198 | 3.1271 | 3391 | 2.9487 | 3587 | 2.7878 | 16 |
| **45** | **2820** | **3.5457** | **3010** | **3.3226** | **3201** | **3.1240** | **3395** | **2.9459** | **3590** | **2.7852** | **15** |
| 46 | 2823 | 3.5418 | 3013 | 3.3191 | 3204 | 3.1209 | 3398 | 2.9431 | 3594 | 2.7827 | 14 |
| 47 | 2827 | 3.5379 | 3016 | 3.3156 | 3207 | 3.1178 | 3401 | 2.9403 | 3597 | 2.7801 | 13 |
| 48 | 2830 | 3.5339 | 3019 | 3.3122 | 3211 | 3.1146 | 3404 | 2.9375 | 3600 | 2.7776 | 12 |
| 49 | 2833 | 3.5300 | 3022 | 3.3087 | 3214 | 3.1115 | 3408 | 2.9347 | 3604 | 2.7751 | 11 |
| **50** | **2836** | **3.5261** | **3026** | **3.3052** | **3217** | **3.1084** | **3411** | **2.9319** | **3607** | **2.7725** | **10** |
| 51 | 2839 | 3.5222 | 3029 | 3.3017 | 3220 | 3.1053 | 3414 | 2.9291 | 3610 | 2.7700 | 9 |
| 52 | 2842 | 3.5183 | 3032 | 3.2983 | 3223 | 3.1022 | 3417 | 2.9263 | 3613 | 2.7675 | 8 |
| 53 | 2845 | 3.5144 | 3035 | 3.2948 | 3227 | 3.0991 | 3421 | 2.9235 | 3617 | 2.7650 | 7 |
| 54 | 2849 | 3.5105 | 3038 | 3.2914 | 3230 | 3.0961 | 3424 | 2.9208 | 3620 | 2.7625 | 6 |
| **55** | **2852** | **3.5067** | **3041** | **3.2880** | **3233** | **3.0930** | **3427** | **2.9180** | **3623** | **2.7600** | **5** |
| 56 | 2855 | 3.5028 | 3045 | 3.2845 | 3236 | 3.0899 | 3430 | 2.9152 | 3627 | 2.7575 | 4 |
| 57 | 2858 | 3.4989 | 3048 | 3.2811 | 3240 | 3.0868 | 3434 | 2.9125 | 3630 | 2.7550 | 3 |
| 58 | 2861 | 3.4951 | 3051 | 3.2777 | 3243 | 3.0838 | 3437 | 2.9097 | 3633 | 2.7525 | 2 |
| 59 | 2864 | 3.4912 | 3054 | 3.2743 | 3246 | 3.0807 | 3440 | 2.9070 | 3636 | 2.7500 | 1 |
| **60** | **2867** | **3.4874** | **3057** | **3.2709** | **3249** | **3.0777** | **3443** | **2.9042** | **3640** | **2.7475** | **0** |
| ′ | cot | tan | cot | tan | cot | tan | cot | tan | cot | tan | ′ |
| | 74° | | 73° | | 72° | | 71° | | 70° | | |

| | 20° | | 21° | | 22° | | 23° | | 24° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | tan | cot | tan | cot | tan | cot | tan | cot | tan | cot | ′ |
| **0** | **3640** | **2.7475** | **3839** | **2.6051** | **4040** | **2.4751** | **4245** | **2.3559** | **4452** | **2.2460** | **60** |
| 1 | 3643 | 2.7450 | 3842 | 2.6028 | 4044 | 2.4730 | 4248 | 2.3539 | 4456 | 2.2443 | 59 |
| 2 | 3646 | 2.7425 | 3845 | 2.6006 | 4047 | 2.4709 | 4252 | 2.3520 | 4459 | 2.2425 | 58 |
| 3 | 3650 | 2.7400 | 3849 | 2.5983 | 4050 | 2.4689 | 4255 | 2.3501 | 4463 | 2.2408 | 57 |
| 4 | 3653 | 2.7376 | 3852 | 2.5961 | 4054 | 2.4668 | 4258 | 2.3483 | 4466 | 2.2390 | 56 |
| **5** | **3656** | **2.7351** | **3855** | **2.5938** | **4057** | **2.4648** | **4262** | **2.3464** | **4470** | **2.2373** | **55** |
| 6 | 3659 | 2.7326 | 3859 | 2.5916 | 4061 | 2.4627 | 4265 | 2.3445 | 4473 | 2.2355 | 54 |
| 7 | 3663 | 2.7302 | 3862 | 2.5893 | 4064 | 2.4606 | 4269 | 2.3426 | 4477 | 2.2338 | 53 |
| 8 | 3666 | 2.7277 | 3865 | 2.5871 | 4067 | 2.4586 | 4272 | 2.3407 | 4480 | 2.2320 | 52 |
| 9 | 3669 | 2.7253 | 3869 | 2.5848 | 4071 | 2.4566 | 4276 | 2.3388 | 4484 | 2.2303 | 51 |
| **10** | **3673** | **2.7228** | **3872** | **2.5826** | **4074** | **2.4545** | **4279** | **2.3369** | **4487** | **2.2286** | **50** |
| 11 | 3676 | 2.7204 | 3875 | 2.5804 | 4078 | 2.4525 | 4283 | 2.3351 | 4491 | 2.2268 | 49 |
| 12 | 3679 | 2.7179 | 3879 | 2.5782 | 4081 | 2.4504 | 4286 | 2.3332 | 4494 | 2.2251 | 48 |
| 13 | 3683 | 2.7155 | 3882 | 2.5759 | 4084 | 2.4484 | 4289 | 2.3313 | 4498 | 2.2234 | 47 |
| 14 | 3686 | 2.7130 | 3885 | 2.5737 | 4088 | 2.4464 | 4293 | 2.3294 | 4501 | 2.2216 | 46 |
| **15** | **3689** | **2.7106** | **3889** | **2.5715** | **4091** | **2.4443** | **4296** | **2.3276** | **4505** | **2.2199** | **45** |
| 16 | 3693 | 2.7082 | 3892 | 2.5693 | 4095 | 2.4423 | 4300 | 2.3257 | 4508 | 2.2182 | 44 |
| 17 | 3696 | 2.7058 | 3895 | 2.5671 | 4098 | 2.4403 | 4303 | 2.3238 | 4512 | 2.2165 | 43 |
| 18 | 3699 | 2.7034 | 3899 | 2.5649 | 4101 | 2.4383 | 4307 | 2.3220 | 4515 | 2.2148 | 42 |
| 19 | 3702 | 2.7009 | 3902 | 2.5627 | 4105 | 2.4362 | 4310 | 2.3201 | 4519 | 2.2130 | 41 |
| **20** | **3706** | **2.6985** | **3906** | **2.5605** | **4108** | **2.4342** | **4314** | **2.3183** | **4522** | **2.2113** | **40** |
| 21 | 3709 | 2.6961 | 3909 | 2.5583 | 4111 | 2.4322 | 4317 | 2.3164 | 4526 | 2.2096 | 39 |
| 22 | 3712 | 2.6937 | 3912 | 2.5561 | 4115 | 2.4302 | 4320 | 2.3146 | 4529 | 2.2079 | 38 |
| 23 | 3716 | 2.6913 | 3916 | 2.5539 | 4118 | 2.4282 | 4324 | 2.3127 | 4533 | 2.2062 | 37 |
| 24 | 3719 | 2.6889 | 3919 | 2.5517 | 4122 | 2.4262 | 4327 | 2.3109 | 4536 | 2.2045 | 36 |
| **25** | **3722** | **2.6865** | **3922** | **2.5495** | **4125** | **2.4242** | **4331** | **2.3090** | **4540** | **2.2028** | **35** |
| 26 | 3726 | 2.6841 | 3926 | 2.5473 | 4129 | 2.4222 | 4334 | 2.3072 | 4543 | 2.2011 | 34 |
| 27 | 3729 | 2.6818 | 3929 | 2.5452 | 4132 | 2.4202 | 4338 | 2.3053 | 4547 | 2.1994 | 33 |
| 28 | 3732 | 2.6794 | 3932 | 2.5430 | 4135 | 2.4182 | 4341 | 2.3035 | 4550 | 2.1977 | 32 |
| 29 | 3736 | 2.6770 | 3936 | 2.5408 | 4139 | 2.4162 | 4345 | 2.3017 | 4554 | 2.1960 | 31 |
| **30** | **3739** | **2.6746** | **3939** | **2.5386** | **4142** | **2.4142** | **4348** | **2.2998** | **4557** | **2.1943** | **30** |
| 31 | 3742 | 2.6723 | 3942 | 2.5365 | 4146 | 2.4122 | 4352 | 2.2980 | 4561 | 2.1926 | 29 |
| 32 | 3745 | 2.6699 | 3946 | 2.5343 | 4149 | 2.4102 | 4355 | 2.2962 | 4564 | 2.1909 | 28 |
| 33 | 3749 | 2.6675 | 3949 | 2.5322 | 4152 | 2.4083 | 4359 | 2.2944 | 4568 | 2.1892 | 27 |
| 34 | 3752 | 2.6652 | 3953 | 2.5300 | 4156 | 2.4063 | 4362 | 2.2925 | 4571 | 2.1876 | 26 |
| **35** | **3755** | **2.6628** | **3956** | **2.5279** | **4159** | **2.4043** | **4365** | **2.2907** | **4575** | **2.1859** | **25** |
| 36 | 3759 | 2.6605 | 3959 | 2.5257 | 4163 | 2.4023 | 4369 | 2.2889 | 4578 | 2.1842 | 24 |
| 37 | 3762 | 2.6581 | 3963 | 2.5236 | 4166 | 2.4004 | 4372 | 2.2871 | 4582 | 2.1825 | 23 |
| 38 | 3765 | 2.6558 | 3966 | 2.5214 | 4169 | 2.3984 | 4376 | 2.2853 | 4585 | 2.1808 | 22 |
| 39 | 3769 | 2.6534 | 3969 | 2.5193 | 4173 | 2.3964 | 4379 | 2.2835 | 4589 | 2.1792 | 21 |
| **40** | 3772 | **2.6511** | **3973** | **2.5172** | **4176** | **2.3945** | **4383** | **2.2817** | **4592** | **2.1775** | **20** |
| 41 | 3775 | 2.6488 | 3976 | 2.5150 | 4180 | 2.3925 | 4386 | 2.2799 | 4596 | 2.1758 | 19 |
| 42 | 3779 | 2.6464 | 3979 | 2.5129 | 4183 | 2.3906 | 4390 | 2.2781 | 4599 | 2.1742 | 18 |
| 43 | 3782 | 2.6441 | 3983 | 2.5108 | 4187 | 2.3886 | 4393 | 2.2763 | 4603 | 2.1725 | 17 |
| 44 | 3785 | 2.6418 | 3986 | 2.5086 | 4190 | 2.3867 | 4397 | 2.2745 | 4607 | 2.1708 | 16 |
| **45** | **3789** | **2.6395** | **3990** | **2.5065** | **4193** | **2.3847** | **4400** | **2.2727** | **4610** | **2.1692** | **15** |
| 46 | 3792 | 2.6371 | 3993 | 2.5044 | 4197 | 2.3828 | 4404 | 2.2709 | 4614 | 2.1675 | 14 |
| 47 | 3795 | 2.6348 | 3996 | 2.5023 | 4200 | 2.3808 | 4407 | 2.2691 | 4617 | 2.1659 | 13 |
| 48 | 3799 | 2.6325 | 4000 | 2.5002 | 4204 | 2.3789 | 4411 | 2.2673 | 4621 | 2.1642 | 12 |
| 49 | 3802 | 2.6302 | 4003 | 2.4981 | 4207 | 2.3770 | 4414 | 2.2655 | 4624 | 2.1625 | 11 |
| **50** | **3805** | **2.6279** | **4006** | **2.4960** | **4210** | **2.3750** | **4417** | **2.2637** | **4628** | **2.1609** | **10** |
| 51 | 3809 | 2.6256 | 4010 | 2.4939 | 4214 | 2.3731 | 4421 | 2.2620 | 4631 | 2.1592 | 9 |
| 52 | 3812 | 2.6233 | 4013 | 2.4918 | 4217 | 2.3712 | 4424 | 2.2602 | 4635 | 2.1576 | 8 |
| 53 | 3815 | 2.6210 | 4017 | 2.4897 | 4221 | 2.3693 | 4428 | 2.2584 | 4638 | 2.1560 | 7 |
| 54 | 3819 | 2.6187 | 4020 | 2.4876 | 4224 | 2.3673 | 4431 | 2.2566 | 4642 | 2.1543 | 6 |
| **55** | **3822** | **2.6165** | **4023** | **2.4855** | **4228** | **2.3654** | **4435** | **2.2549** | **4645** | **2.1527** | **5** |
| 56 | 3825 | 2.6142 | 4027 | 2.4834 | 4231 | 2.3635 | 4438 | 2.2531 | 4649 | 2.1510 | 4 |
| 57 | 3829 | 2.6119 | 4030 | 2.4813 | 4234 | 2.3616 | 4442 | 2.2513 | 4652 | 2.1494 | 3 |
| 58 | 3832 | 2.6096 | 4033 | 2.4792 | 4238 | 2.3597 | 4445 | 2.2496 | 4656 | 2.1478 | 2 |
| 59 | 3835 | 2.6074 | 4037 | 2.4772 | 4241 | 2.3578 | 4449 | 2.2478 | 4660 | 2.1461 | 1 |
| **60** | **3839** | **2.6051** | **4040** | **2.4751** | **4245** | **2.3559** | **4452** | **2.2460** | **4663** | **2.1445** | **0** |
| ′ | cot | tan | cot | tan | cot | tan | cot | tan | cot | tan | ′ |
| | 69° | | 68° | | 67° | | 66° | | 65° | | |

| ′ | 25° tan | 25° cot | 26° tan | 26° cot | 27° tan | 27° cot | 28° tan | 28° cot | 29° tan | 29° cot | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | **4663** | **2.1445** | **4877** | **2.0503** | **5095** | **1.9626** | **5317** | **1.8807** | **5543** | **1.8040** | **60** |
| 1 | 4667 | 2.1429 | 4881 | 2.0488 | 5099 | 1.9612 | 5321 | 1.8794 | 5547 | 1.8028 | 59 |
| 2 | 4670 | 2.1413 | 4885 | 2.0473 | 5103 | 1.9598 | 5325 | 1.8781 | 5551 | 1.8016 | 58 |
| 3 | 4674 | 2.1396 | 4888 | 2.0458 | 5106 | 1.9584 | 5328 | 1.8768 | 5555 | 1.8003 | 57 |
| 4 | 4677 | 2.1380 | 4892 | 2.0443 | 5110 | 1.9570 | 5332 | 1.8755 | 5558 | 1.7991 | 56 |
| **5** | **4681** | **2.1364** | **4895** | **2.0428** | **5114** | **1.9556** | **5336** | **1.8741** | **5562** | **1.7979** | **55** |
| 6 | 4684 | 2.1348 | 4899 | 2.0413 | 5117 | 1.9542 | 5340 | 1.8728 | 5566 | 1.7966 | 54 |
| 7 | 4688 | 2.1332 | 4903 | 2.0398 | 5121 | 1.9528 | 5343 | 1.8715 | 5570 | 1.7954 | 53 |
| 8 | 4691 | 2.1315 | 4906 | 2.0383 | 5125 | 1.9514 | 5347 | 1.8702 | 5574 | 1.7942 | 52 |
| 9 | 4695 | 2.1299 | 4910 | 2.0368 | 5128 | 1.9500 | 5351 | 1.8689 | 5577 | 1.7930 | 51 |
| **10** | **4699** | **2.1283** | **4913** | **2.0353** | **5132** | **1.9486** | **5354** | **1.8676** | **5581** | **1.7917** | **50** |
| 11 | 4702 | 2.1267 | 4917 | 2.0338 | 5136 | 1.9472 | 5358 | 1.8663 | 5585 | 1.7905 | 49 |
| 12 | 4706 | 2.1251 | 4921 | 2.0323 | 5139 | 1.9458 | 5362 | 1.8650 | 5589 | 1.7893 | 48 |
| 13 | 4709 | 2.1235 | 4924 | 2.0308 | 5143 | 1.9444 | 5366 | 1.8637 | 5593 | 1.7881 | 47 |
| 14 | 4713 | 2.1219 | 4928 | 2.0293 | 5147 | 1.9430 | 5369 | 1.8624 | 5596 | 1.7868 | 46 |
| **15** | **4716** | **2.1203** | **4931** | **2.0278** | **5150** | **1.9416** | **5373** | **1.8611** | **5600** | **1.7856** | **45** |
| 16 | 4720 | 2.1187 | 4935 | 2.0263 | 5154 | 1.9402 | 5377 | 1.8598 | 5604 | 1.7844 | 44 |
| 17 | 4723 | 2.1171 | 4939 | 2.0248 | 5158 | 1.9388 | 5381 | 1.8585 | 5608 | 1.7832 | 43 |
| 18 | 4727 | 2.1155 | 4942 | 2.0233 | 5161 | 1.9375 | 5384 | 1.8572 | 5612 | 1.7820 | 42 |
| 19 | 4731 | 2.1139 | 4946 | 2.0219 | 5165 | 1.9361 | 5388 | 1.8559 | 5616 | 1.7808 | 41 |
| **20** | **4734** | **2.1123** | **4950** | **2.0204** | **5169** | **1.9347** | **5392** | **1.8546** | **5619** | **1.7796** | **40** |
| 21 | 4738 | 2.1107 | 4953 | 2.0189 | 5172 | 1.9333 | 5396 | 1.8533 | 5623 | 1.7783 | 39 |
| 22 | 4741 | 2.1092 | 4957 | 2.0174 | 5176 | 1.9319 | 5399 | 1.8520 | 5627 | 1.7771 | 38 |
| 23 | 4745 | 2.1076 | 4960 | 2.0160 | 5180 | 1.9306 | 5403 | 1.8507 | 5631 | 1.7759 | 37 |
| 24 | 4748 | 2.1060 | 4964 | 2.0145 | 5184 | 1.9292 | 5407 | 1.8495 | 5635 | 1.7747 | 36 |
| **25** | **4752** | **2.1044** | **4968** | **2.0130** | **5187** | **1.9278** | **5411** | **1.8482** | **5639** | **1.7735** | **35** |
| 26 | 4755 | 2.1028 | 4971 | 2.0115 | 5191 | 1.9265 | 5415 | 1.8469 | 5642 | 1.7723 | 34 |
| 27 | 4759 | 2.1013 | 4975 | 2.0101 | 5195 | 1.9251 | 5418 | 1.8456 | 5646 | 1.7711 | 33 |
| 28 | 4763 | 2.0997 | 4979 | 2.0086 | 5198 | 1.9237 | 5422 | 1.8443 | 5650 | 1.7699 | 32 |
| 29 | 4766 | 2.0981 | 4982 | 2.0072 | 5202 | 1.9223 | 5426 | 1.8430 | 5654 | 1.7687 | 31 |
| **30** | **4770** | **2.0965** | **4986** | **2.0057** | **5206** | **1.9210** | **5430** | **1.8418** | **5658** | **1.7675** | **30** |
| 31 | 4773 | 2.0950 | 4989 | 2.0042 | 5209 | 1.9196 | 5433 | 1.8405 | 5662 | 1.7663 | 29 |
| 32 | 4777 | 2.0934 | 4993 | 2.0028 | 5213 | 1.9183 | 5437 | 1.8392 | 5665 | 1.7651 | 28 |
| 33 | 4780 | 2.0918 | 4997 | 2.0013 | 5217 | 1.9169 | 5441 | 1.8379 | 5669 | 1.7639 | 27 |
| 34 | 4784 | 2.0903 | 5000 | 1.9999 | 5220 | 1.9155 | 5445 | 1.8367 | 5673 | 1.7627 | 26 |
| **35** | **4788** | **2.0887** | **5004** | **1.9984** | **5224** | **1.9142** | **5448** | **1.8354** | **5677** | **1.7615** | **25** |
| 36 | 4791 | 2.0872 | 5008 | 1.9970 | 5228 | 1.9128 | 5452 | 1.8341 | 5681 | 1.7603 | 24 |
| 37 | 4795 | 2.0856 | 5011 | 1.9955 | 5232 | 1.9115 | 5456 | 1.8329 | 5685 | 1.7591 | 23 |
| 38 | 4798 | 2.0840 | 5015 | 1.9941 | 5235 | 1.9101 | 5460 | 1.8316 | 5688 | 1.7579 | 22 |
| 39 | 4802 | 2.0825 | 5019 | 1.9926 | 5239 | 1.9088 | 5464 | 1.8303 | 5692 | 1.7567 | 21 |
| **40** | **4806** | **2.0809** | **5022** | **1.9912** | **5243** | **1.9074** | **5467** | **1.8291** | **5696** | **1.7556** | **20** |
| 41 | 4809 | 2.0794 | 5026 | 1.9897 | 5246 | 1.9061 | 5471 | 1.8278 | 5700 | 1.7544 | 19 |
| 42 | 4813 | 2.0778 | 5029 | 1.9883 | 5250 | 1.9047 | 5475 | 1.8265 | 5704 | 1.7532 | 18 |
| 43 | 4816 | 2.0763 | 5033 | 1.9868 | 5254 | 1.9034 | 5479 | 1.8253 | 5708 | 1.7520 | 17 |
| 44 | 4820 | 2.0748 | 5037 | 1.9854 | 5258 | 1.9020 | 5482 | 1.8240 | 5712 | 1.7508 | 16 |
| **45** | **4823** | **2.0732** | **5040** | **1.9840** | **5261** | **1.9007** | **5486** | **1.8228** | **5715** | **1.7496** | **15** |
| 46 | 4827 | 2.0717 | 5044 | 1.9825 | 5265 | 1.8993 | 5490 | 1.8215 | 5719 | 1.7485 | 14 |
| 47 | 4831 | 2.0701 | 5048 | 1.9811 | 5269 | 1.8980 | 5494 | 1.8202 | 5723 | 1.7473 | 13 |
| 48 | 4834 | 2.0686 | 5051 | 1.9797 | 5272 | 1.8967 | 5498 | 1.8190 | 5727 | 1.7461 | 12 |
| 49 | 4838 | 2.0671 | 5055 | 1.9782 | 5276 | 1.8953 | 5501 | 1.8177 | 5731 | 1.7449 | 11 |
| **50** | **4841** | **2.0655** | **5059** | **1.9768** | **5280** | **1.8940** | **5505** | **1.8165** | **5735** | **1.7437** | **10** |
| 51 | 4845 | 2.0640 | 5062 | 1.9754 | 5284 | 1.8927 | 5509 | 1.8152 | 5739 | 1.7426 | 9 |
| 52 | 4849 | 2.0625 | 5066 | 1.9740 | 5287 | 1.8913 | 5513 | 1.8140 | 5743 | 1.7414 | 8 |
| 53 | 4852 | 2.0609 | 5070 | 1.9725 | 5291 | 1.8900 | 5517 | 1.8127 | 5746 | 1.7402 | 7 |
| 54 | 4856 | 2.0594 | 5073 | 1.9711 | 5295 | 1.8887 | 5520 | 1.8115 | 5750 | 1.7391 | 6 |
| **55** | **4859** | **2.0579** | **5077** | **1.9697** | **5298** | **1.8873** | **5524** | **1.8103** | **5754** | **1.7379** | **5** |
| 56 | 4863 | 2.0564 | 5081 | 1.9683 | 5302 | 1.8860 | 5528 | 1.8090 | 5758 | 1.7367 | 4 |
| 57 | 4867 | 2.0549 | 5084 | 1.9669 | 5306 | 1.8847 | 5532 | 1.8078 | 5762 | 1.7355 | 3 |
| 58 | 4870 | 2.0533 | 5088 | 1.9654 | 5310 | 1.8834 | 5535 | 1.8065 | 5766 | 1.7344 | 2 |
| 59 | 4874 | 2.0518 | 5092 | 1.9640 | 5313 | 1.8820 | 5539 | 1.8053 | 5770 | 1.7332 | 1 |
| **60** | **4877** | **2.0503** | **5095** | **1.9626** | **5317** | **1.8807** | **5543** | **1.8040** | **5774** | **1.7321** | **0** |
| ′ | cot | tan | cot | tan | cot | tan | cot | tan | cot | tan | ′ |
| | 64° | | 63° | | 62° | | 61° | | 60° | | |

| ′ | 30° | | 31° | | 32° | | 33° | | 34° | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | tan | cot | tan | cot | tan | cot | tan | cot | tan | cot | |
| 0 | 5774 | 1.7321 | 6009 | 1.6643 | 6249 | 1.6003 | 6494 | 1.5399 | 6745 | 1.4826 | 60 |
| 1 | 5777 | 1.7309 | 6013 | 1.6632 | 6253 | 1.5993 | 6498 | 1.5389 | 6749 | 1.4816 | 59 |
| 2 | 5781 | 1.7297 | 6017 | 1.6621 | 6257 | 1.5983 | 6502 | 1.5379 | 6754 | 1.4807 | 58 |
| 3 | 5785 | 1.7286 | 6020 | 1.6610 | 6261 | 1.5972 | 6506 | 1.5369 | 6758 | 1.4798 | 57 |
| 4 | 5789 | 1.7274 | 6024 | 1.6599 | 6265 | 1.5962 | 6511 | 1.5359 | 6762 | 1.4788 | 56 |
| 5 | 5793 | 1.7262 | 6028 | 1.6588 | 6269 | 1.5952 | 6515 | 1.5350 | 6766 | 1.4779 | 55 |
| 6 | 5797 | 1.7251 | 6032 | 1.6577 | 6273 | 1.5941 | 6519 | 1.5340 | 6771 | 1.4770 | 54 |
| 7 | 5801 | 1.7239 | 6036 | 1.6566 | 6277 | 1.5931 | 6523 | 1.5330 | 6775 | 1.4761 | 53 |
| 8 | 5805 | 1.7228 | 6040 | 1.6555 | 6281 | 1.5921 | 6527 | 1.5320 | 6779 | 1.4751 | 52 |
| 9 | 5808 | 1.7216 | 6044 | 1.6545 | 6285 | 1.5911 | 6531 | 1.5311 | 6783 | 1.4742 | 51 |
| 10 | 5812 | 1.7205 | 6048 | 1.6534 | 6289 | 1.5900 | 6536 | 1.5301 | 6787 | 1.4733 | 50 |
| 11 | 5816 | 1.7193 | 6052 | 1.6523 | 6293 | 1.5890 | 6540 | 1.5291 | 6792 | 1.4724 | 49 |
| 12 | 5820 | 1.7182 | 6056 | 1.6512 | 6297 | 1.5880 | 6544 | 1.5282 | 6796 | 1.4715 | 48 |
| 13 | 5824 | 1.7170 | 6060 | 1.6501 | 6301 | 1.5869 | 6548 | 1.5272 | 6800 | 1.4705 | 47 |
| 14 | 5828 | 1.7159 | 6064 | 1.6490 | 6305 | 1.5859 | 6552 | 1.5262 | 6805 | 1.4696 | 46 |
| 15 | 5832 | 1.7147 | 6068 | 1.6479 | 6310 | 1.5849 | 6556 | 1.5253 | 6809 | 1.4687 | 45 |
| 16 | 5836 | 1.7136 | 6072 | 1.6469 | 6314 | 1.5839 | 6560 | 1.5243 | 6813 | 1.4678 | 44 |
| 17 | 5840 | 1.7124 | 6076 | 1.6458 | 6318 | 1.5829 | 6565 | 1.5233 | 6817 | 1.4669 | 43 |
| 18 | 5844 | 1.7113 | 6080 | 1.6447 | 6322 | 1.5818 | 6569 | 1.5224 | 6822 | 1.4659 | 42 |
| 19 | 5847 | 1.7102 | 6084 | 1.6436 | 6326 | 1.5808 | 6573 | 1.5214 | 6826 | 1.4650 | 41 |
| 20 | 5851 | 1.7090 | 6088 | 1.6426 | 6330 | 1.5798 | 6577 | 1.5204 | 6830 | 1.4641 | 40 |
| 21 | 5855 | 1.7079 | 6092 | 1.6415 | 6334 | 1.5788 | 6581 | 1.5195 | 6834 | 1.4632 | 39 |
| 22 | 5859 | 1.7067 | 6096 | 1.6404 | 6338 | 1.5778 | 6585 | 1.5185 | 6839 | 1.4623 | 38 |
| 23 | 5863 | 1.7056 | 6100 | 1.6393 | 6342 | 1.5768 | 6590 | 1.5175 | 6843 | 1.4614 | 37 |
| 24 | 5867 | 1.7045 | 6104 | 1.6383 | 6346 | 1.5757 | 6594 | 1.5166 | 6847 | 1.4605 | 36 |
| 25 | 5871 | 1.7033 | 6108 | 1.6372 | 6350 | 1.5747 | 6598 | 1.5156 | 6851 | 1.4596 | 35 |
| 26 | 5875 | 1.7022 | 6112 | 1.6361 | 6354 | 1.5737 | 6602 | 1.5147 | 6856 | 1.4586 | 34 |
| 27 | 5879 | 1.7011 | 6116 | 1.6351 | 6358 | 1.5727 | 6606 | 1.5137 | 6860 | 1.4577 | 33 |
| 28 | 5883 | 1.6999 | 6120 | 1.6340 | 6363 | 1.5717 | 6610 | 1.5127 | 6864 | 1.4568 | 32 |
| 29 | 5887 | 1.6988 | 6124 | 1.6329 | 6367 | 1.5707 | 6615 | 1.5118 | 6869 | 1.4559 | 31 |
| 30 | 5890 | 1.6977 | 6128 | 1.6319 | 6371 | 1.5697 | 6619 | 1.5108 | 6873 | 1.4550 | 30 |
| 31 | 5894 | 1.6965 | 6132 | 1.6308 | 6375 | 1.5687 | 6623 | 1.5099 | 6877 | 1.4541 | 29 |
| 32 | 5898 | 1.6954 | 6136 | 1.6297 | 6379 | 1.5677 | 6627 | 1.5089 | 6881 | 1.4532 | 28 |
| 33 | 5902 | 1.6943 | 6140 | 1.6287 | 6383 | 1.5667 | 6631 | 1.5080 | 6886 | 1.4523 | 27 |
| 34 | 5906 | 1.6932 | 6144 | 1.6276 | 6387 | 1.5657 | 6636 | 1.5070 | 6890 | 1.4514 | 26 |
| 35 | 5910 | 1.6920 | 6148 | 1.6265 | 6391 | 1.5647 | 6640 | 1.5061 | 6894 | 1.4505 | 25 |
| 36 | 5914 | 1.6909 | 6152 | 1.6255 | 6395 | 1.5637 | 6644 | 1.5051 | 6899 | 1.4496 | 24 |
| 37 | 5918 | 1.6898 | 6156 | 1.6244 | 6399 | 1.5627 | 6648 | 1.5042 | 6903 | 1.4487 | 23 |
| 38 | 5922 | 1.6887 | 6160 | 1.6234 | 6403 | 1.5617 | 6652 | 1.5032 | 6907 | 1.4478 | 22 |
| 39 | 5926 | 1.6875 | 6164 | 1.6223 | 6408 | 1.5607 | 6657 | 1.5023 | 6911 | 1.4469 | 21 |
| 40 | 5930 | 1.6864 | 6168 | 1.6212 | 6412 | 1.5597 | 6661 | 1.5013 | 6916 | 1.4460 | 20 |
| 41 | 5934 | 1.6853 | 6172 | 1.6202 | 6416 | 1.5587 | 6665 | 1.5004 | 6920 | 1.4451 | 19 |
| 42 | 5938 | 1.6842 | 6176 | 1.6191 | 6420 | 1.5577 | 6669 | 1.4994 | 6924 | 1.4442 | 18 |
| 43 | 5942 | 1.6831 | 6180 | 1.6181 | 6424 | 1.5567 | 6673 | 1.4985 | 6929 | 1.4433 | 17 |
| 44 | 5945 | 1.6820 | 6184 | 1.6170 | 6428 | 1.5557 | 6678 | 1.4975 | 6933 | 1.4424 | 16 |
| 45 | 5949 | 1.6808 | 6188 | 1.6160 | 6432 | 1.5547 | 6682 | 1.4966 | 6937 | 1.4415 | 15 |
| 46 | 5953 | 1.6797 | 6192 | 1.6149 | 6436 | 1.5537 | 6686 | 1.4957 | 6942 | 1.4406 | 14 |
| 47 | 5957 | 1.6786 | 6196 | 1.6139 | 6440 | 1.5527 | 6690 | 1.4947 | 6946 | 1.4397 | 13 |
| 48 | 5961 | 1.6775 | 6200 | 1.6128 | 6445 | 1.5517 | 6694 | 1.4938 | 6950 | 1.4388 | 12 |
| 49 | 5965 | 1.6764 | 6204 | 1.6118 | 6449 | 1.5507 | 6699 | 1.4928 | 6954 | 1.4379 | 11 |
| 50 | 5969 | 1.6753 | 6208 | 1.6107 | 6453 | 1.5497 | 6703 | 1.4919 | 6959 | 1.4370 | 10 |
| 51 | 5973 | 1.6742 | 6212 | 1.6097 | 6457 | 1.5487 | 6707 | 1.4910 | 6963 | 1.4361 | 9 |
| 52 | 5977 | 1.6731 | 6216 | 1.6087 | 6461 | 1.5477 | 6711 | 1.4900 | 6967 | 1.4352 | 8 |
| 53 | 5981 | 1.6720 | 6220 | 1.6076 | 6465 | 1.5468 | 6716 | 1.4891 | 6972 | 1.4344 | 7 |
| 54 | 5985 | 1.6709 | 6224 | 1.6066 | 6469 | 1.5458 | 6720 | 1.4882 | 6976 | 1.4335 | 6 |
| 55 | 5989 | 1.6698 | 6228 | 1.6055 | 6473 | 1.5448 | 6724 | 1.4872 | 6980 | 1.4326 | 5 |
| 56 | 5993 | 1.6687 | 6233 | 1.6045 | 6478 | 1.5438 | 6728 | 1.4863 | 6985 | 1.4317 | 4 |
| 57 | 5997 | 1.6676 | 6237 | 1.6034 | 6482 | 1.5428 | 6732 | 1.4854 | 6989 | 1.4308 | 3 |
| 58 | 6001 | 1.6665 | 6241 | 1.6024 | 6486 | 1.5418 | 6737 | 1.4844 | 6993 | 1.4299 | 2 |
| 59 | 6005 | 1.6654 | 6245 | 1.6014 | 6490 | 1.5408 | 6741 | 1.4835 | 6998 | 1.4290 | 1 |
| 60 | 6009 | 1.6643 | 6249 | 1.6003 | 6494 | 1.5399 | 6745 | 1.4826 | 7002 | 1.4281 | 0 |
| ′ | cot | tan | cot | tan | cot | tan | cot | tan | cot | tan | ′ |
| | 59° | | 58° | | 57° | | 56° | | 55° | | |

| ′ | 35° | | 36° | | 37° | | 38° | | 39° | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | tan | cot | tan | cot | tan | cot | tan | cot | tan | cot | |
| 0 | 7002 | 1.4281 | 7265 | 1.3764 | 7536 | 1.3270 | 7813 | 1.2799 | 8098 | 1.2349 | 60 |
| 1 | 7006 | 1.4273 | 7270 | 1.3755 | 7540 | 1.3262 | 7818 | 1.2792 | 8103 | 1.2342 | 59 |
| 2 | 7011 | 1.4264 | 7274 | 1.3747 | 7545 | 1.3254 | 7822 | 1.2784 | 8107 | 1.2334 | 58 |
| 3 | 7015 | 1.4255 | 7279 | 1.3739 | 7549 | 1.3246 | 7827 | 1.2776 | 8112 | 1.2327 | 57 |
| 4 | 7019 | 1.4246 | 7283 | 1.3730 | 7554 | 1.3238 | 7832 | 1.2769 | 8117 | 1.2320 | 56 |
| 5 | 7024 | 1.4237 | 7288 | 1.3722 | 7558 | 1.3230 | 7836 | 1.2761 | 8122 | 1.2312 | 55 |
| 6 | 7028 | 1.4229 | 7292 | 1.3713 | 7563 | 1.3222 | 7841 | 1.2753 | 8127 | 1.2305 | 54 |
| 7 | 7032 | 1.4220 | 7297 | 1.3705 | 7568 | 1.3214 | 7846 | 1.2746 | 8132 | 1.2298 | 53 |
| 8 | 7037 | 1.4211 | 7301 | 1.3697 | 7572 | 1.3206 | 7850 | 1.2738 | 8136 | 1.2290 | 52 |
| 9 | 7041 | 1.4202 | 7306 | 1.3688 | 7577 | 1.3198 | 7855 | 1.2731 | 8141 | 1.2283 | 51 |
| 10 | 7046 | 1.4193 | 7310 | 1.3680 | 7581 | 1.3190 | 7860 | 1.2723 | 8146 | 1.2276 | 50 |
| 11 | 7050 | 1.4185 | 7314 | 1.3672 | 7586 | 1.3182 | 7865 | 1.2715 | 8151 | 1.2268 | 49 |
| 12 | 7054 | 1.4176 | 7319 | 1.3663 | 7590 | 1.3175 | 7869 | 1.2708 | 8156 | 1.2261 | 48 |
| 13 | 7059 | 1.4167 | 7323 | 1.3655 | 7595 | 1.3167 | 7874 | 1.2700 | 8161 | 1.2254 | 47 |
| 14 | 7063 | 1.4158 | 7328 | 1.3647 | 7600 | 1.3159 | 7879 | 1.2693 | 8165 | 1.2247 | 46 |
| 15 | 7067 | 1.4150 | 7332 | 1.3638 | 7604 | 1.3151 | 7883 | 1.2685 | 8170 | 1.2239 | 45 |
| 16 | 7072 | 1.4141 | 7337 | 1.3630 | 7609 | 1.3143 | 7888 | 1.2677 | 8175 | 1.2232 | 44 |
| 17 | 7076 | 1.4132 | 7341 | 1.3622 | 7613 | 1.3135 | 7893 | 1.2670 | 8180 | 1.2225 | 43 |
| 18 | 7080 | 1.4124 | 7346 | 1.3613 | 7618 | 1.3127 | 7898 | 1.2662 | 8185 | 1.2218 | 42 |
| 19 | 7085 | 1.4115 | 7350 | 1.3605 | 7623 | 1.3119 | 7902 | 1.2655 | 8190 | 1.2210 | 41 |
| 20 | 7089 | 1.4106 | 7355 | 1.3597 | 7627 | 1.3111 | 7907 | 1.2647 | 8195 | 1.2203 | 40 |
| 21 | 7094 | 1.4097 | 7359 | 1.3588 | 7632 | 1.3103 | 7912 | 1.2640 | 8199 | 1.2196 | 39 |
| 22 | 7098 | 1.4089 | 7364 | 1.3580 | 7636 | 1.3095 | 7916 | 1.2632 | 8204 | 1.2189 | 38 |
| 23 | 7102 | 1.4080 | 7368 | 1.3572 | 7641 | 1.3087 | 7921 | 1.2624 | 8209 | 1.2181 | 37 |
| 24 | 7107 | 1.4071 | 7373 | 1.3564 | 7646 | 1.3079 | 7926 | 1.2617 | 8214 | 1.2174 | 36 |
| 25 | 7111 | 1.4063 | 7377 | 1.3555 | 7650 | 1.3072 | 7931 | 1.2609 | 8219 | 1.2167 | 35 |
| 26 | 7115 | 1.4054 | 7382 | 1.3547 | 7655 | 1.3064 | 7935 | 1.2602 | 8224 | 1.2160 | 34 |
| 27 | 7120 | 1.4045 | 7386 | 1.3539 | 7659 | 1.3056 | 7940 | 1.2594 | 8229 | 1.2153 | 33 |
| 28 | 7124 | 1.4037 | 7391 | 1.3531 | 7664 | 1.3048 | 7945 | 1.2587 | 8234 | 1.2145 | 32 |
| 29 | 7129 | 1.4028 | 7395 | 1.3522 | 7669 | 1.3040 | 7950 | 1.2579 | 8238 | 1.2138 | 31 |
| 30 | 7133 | 1.4019 | 7400 | 1.3514 | 7673 | 1.3032 | 7954 | 1.2572 | 8243 | 1.2131 | 30 |
| 31 | 7137 | 1.4011 | 7404 | 1.3506 | 7678 | 1.3024 | 7959 | 1.2564 | 8248 | 1.2124 | 29 |
| 32 | 7142 | 1.4002 | 7409 | 1.3498 | 7683 | 1.3017 | 7964 | 1.2557 | 8253 | 1.2117 | 28 |
| 33 | 7146 | 1.3994 | 7413 | 1.3490 | 7687 | 1.3009 | 7969 | 1.2549 | 8258 | 1.2109 | 27 |
| 34 | 7151 | 1.3985 | 7418 | 1.3481 | 7692 | 1.3001 | 7973 | 1.2542 | 8263 | 1.2102 | 26 |
| 35 | 7155 | 1.3976 | 7422 | 1.3473 | 7696 | 1.2993 | 7978 | 1.2534 | 8268 | 1.2095 | 25 |
| 36 | 7159 | 1.3968 | 7427 | 1.3465 | 7701 | 1.2985 | 7983 | 1.2527 | 8273 | 1.2088 | 24 |
| 37 | 7164 | 1.3959 | 7431 | 1.3457 | 7706 | 1.2977 | 7988 | 1.2519 | 8278 | 1.2081 | 23 |
| 38 | 7168 | 1.3951 | 7436 | 1.3449 | 7710 | 1.2970 | 7992 | 1.2512 | 8283 | 1.2074 | 22 |
| 39 | 7173 | 1.3942 | 7440 | 1.3440 | 7715 | 1.2962 | 7997 | 1.2504 | 8287 | 1.2066 | 21 |
| 40 | 7177 | 1.3934 | 7445 | 1.3432 | 7720 | 1.2954 | 8002 | 1.2497 | 8292 | 1.2059 | 20 |
| 41 | 7181 | 1.3925 | 7449 | 1.3424 | 7724 | 1.2946 | 8007 | 1.2489 | 8297 | 1.2052 | 19 |
| 42 | 7186 | 1.3916 | 7454 | 1.3416 | 7729 | 1.2938 | 8012 | 1.2482 | 8302 | 1.2045 | 18 |
| 43 | 7190 | 1.3908 | 7458 | 1.3408 | 7734 | 1.2931 | 8016 | 1.2475 | 8307 | 1.2038 | 17 |
| 44 | 7195 | 1.3899 | 7463 | 1.3400 | 7738 | 1.2923 | 8021 | 1.2467 | 8312 | 1.2031 | 16 |
| 45 | 7199 | 1.3891 | 7467 | 1.3392 | 7743 | 1.2915 | 8026 | 1.2460 | 8317 | 1.2024 | 15 |
| 46 | 7203 | 1.3882 | 7472 | 1.3384 | 7747 | 1.2907 | 8031 | 1.2452 | 8322 | 1.2017 | 14 |
| 47 | 7208 | 1.3874 | 7476 | 1.3375 | 7752 | 1.2900 | 8035 | 1.2445 | 8327 | 1.2009 | 13 |
| 48 | 7212 | 1.3865 | 7481 | 1.3367 | 7757 | 1.2892 | 8040 | 1.2437 | 8332 | 1.2002 | 12 |
| 49 | 7217 | 1.3857 | 7485 | 1.3359 | 7761 | 1.2884 | 8045 | 1.2430 | 8337 | 1.1995 | 11 |
| 50 | 7221 | 1.3848 | 7490 | 1.3351 | 7766 | 1.2876 | 8050 | 1.2423 | 8342 | 1.1988 | 10 |
| 51 | 7226 | 1.3840 | 7495 | 1.3343 | 7771 | 1.2869 | 8055 | 1.2415 | 8346 | 1.1981 | 9 |
| 52 | 7230 | 1.3831 | 7499 | 1.3335 | 7775 | 1.2861 | 8059 | 1.2408 | 8351 | 1.1974 | 8 |
| 53 | 7234 | 1.3823 | 7504 | 1.3327 | 7780 | 1.2853 | 8064 | 1.2401 | 8356 | 1.1967 | 7 |
| 54 | 7239 | 1.3814 | 7508 | 1.3319 | 7785 | 1.2846 | 8069 | 1.2393 | 8361 | 1.1960 | 6 |
| 55 | 7243 | 1.3806 | 7513 | 1.3311 | 7789 | 1.2838 | 8074 | 1.2386 | 8366 | 1.1953 | 5 |
| 56 | 7248 | 1.3798 | 7517 | 1.3303 | 7794 | 1.2830 | 8079 | 1.2378 | 8371 | 1.1946 | 4 |
| 57 | 7252 | 1.3789 | 7522 | 1.3295 | 7799 | 1.2822 | 8083 | 1.2371 | 8376 | 1.1939 | 3 |
| 58 | 7257 | 1.3781 | 7526 | 1.3287 | 7803 | 1.2815 | 8088 | 1.2364 | 8381 | 1.1932 | 2 |
| 59 | 7261 | 1.3772 | 7531 | 1.3278 | 7808 | 1.2807 | 8093 | 1.2356 | 8386 | 1.1925 | 1 |
| 60 | 7265 | 1.3764 | 7536 | 1.3270 | 7813 | 1.2799 | 8098 | 1.2349 | 8391 | 1.1918 | 0 |
| ′ | cot | tan | cot | tan | cot | tan | cot | tan | cot | tan | ′ |
| | 54° | | 53° | | 52° | | 51° | | 50° | | |

| ′ | 40° | | 41° | | 42° | | 43° | | 44° | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | tan | cot | tan | cot | tan | cot | tan | cot | tan | cot | |
| **0** | **8391** | **1.1918** | **8693** | **1.1504** | **9004** | **1.1106** | **9325** | **1.0724** | **9657** | **1.0355** | **60** |
| 1 | 8396 | 1.1910 | 8698 | 1.1497 | 9009 | 1.1100 | 9331 | 1.0717 | 9663 | 1.0349 | 59 |
| 2 | 8401 | 1.1903 | 8703 | 1.1490 | 9015 | 1.1093 | 9336 | 1.0711 | 9668 | 1.0343 | 58 |
| 3 | 8406 | 1.1896 | 8708 | 1.1483 | 9020 | 1.1087 | 9341 | 1.0705 | 9674 | 1.0337 | 57 |
| 4 | 8411 | 1.1889 | 8713 | 1.1477 | 9025 | 1.1080 | 9347 | 1.0699 | 9679 | 1.0331 | 56 |
| **5** | **8416** | **1.1882** | **8718** | **1.1470** | **9030** | **1.1074** | **9352** | **1.0692** | **9685** | **1.0325** | **55** |
| 6 | 8421 | 1.1875 | 8724 | 1.1463 | 9036 | 1.1067 | 9358 | 1.0686 | 9691 | 1.0319 | 54 |
| 7 | 8426 | 1.1868 | 8729 | 1.1456 | 9041 | 1.1061 | 9363 | 1.0680 | 9696 | 1.0313 | 53 |
| 8 | 8431 | 1.1861 | 8734 | 1.1450 | 9046 | 1.1054 | 9369 | 1.0674 | 9702 | 1.0307 | 52 |
| 9 | 8436 | 1.1854 | 8739 | 1.1443 | 9052 | 1.1048 | 9374 | 1.0668 | 9708 | 1.0301 | 51 |
| **10** | **8441** | **1.1847** | **8744** | **1.1436** | **9057** | **1.1041** | **9380** | **1.0661** | **9713** | **1.0295** | **50** |
| 11 | 8446 | 1.1840 | 8749 | 1.1430 | 9062 | 1.1035 | 9385 | 1.0655 | 9719 | 1.0289 | 49 |
| 12 | 8451 | 1.1833 | 8754 | 1.1423 | 9067 | 1.1028 | 9391 | 1.0649 | 9725 | 1.0283 | 48 |
| 13 | 8456 | 1.1826 | 8759 | 1.1416 | 9073 | 1.1022 | 9396 | 1.0643 | 9730 | 1.0277 | 47 |
| 14 | 8461 | 1.1819 | 8765 | 1.1410 | 9078 | 1.1016 | 9402 | 1.0637 | 9736 | 1.0271 | 46 |
| **15** | **8466** | **1.1812** | **8770** | **1.1403** | **9083** | **1.1009** | **9407** | **1.0630** | **9742** | **1.0265** | **45** |
| 16 | 8471 | 1.1806 | 8775 | 1.1396 | 9089 | 1.1003 | 9413 | 1.0624 | 9747 | 1.0259 | 44 |
| 17 | 8476 | 1.1799 | 8780 | 1.1389 | 9094 | 1.0996 | 9418 | 1.0618 | 9753 | 1.0253 | 43 |
| 18 | 8481 | 1.1792 | 8785 | 1.1383 | 9099 | 1.0990 | 9424 | 1.0612 | 9759 | 1.0247 | 42 |
| 19 | 8486 | 1.1785 | 8790 | 1.1376 | 9105 | 1.0983 | 9429 | 1.0606 | 9764 | 1.0241 | 41 |
| **20** | **8491** | **1.1778** | **8796** | **1.1369** | **9110** | **1.0977** | **9435** | **1.0599** | **9770** | **1.0235** | **40** |
| 21 | 8496 | 1.1771 | 8801 | 1.1363 | 9115 | 1.0971 | 9440 | 1.0593 | 9776 | 1.0230 | 39 |
| 22 | 8501 | 1.1764 | 8806 | 1.1356 | 9121 | 1.0964 | 9446 | 1.0587 | 9781 | 1.0224 | 38 |
| 23 | 8506 | 1.1757 | 8811 | 1.1349 | 9126 | 1.0958 | 9451 | 1.0581 | 9787 | 1.0218 | 37 |
| 24 | 8511 | 1.1750 | 8816 | 1.1343 | 9131 | 1.0951 | 9457 | 1.0575 | 9793 | 1.0212 | 36 |
| **25** | **8516** | **1.1743** | **8821** | **1.1336** | **9137** | **1.0945** | **9462** | **1.0569** | **9798** | **1.0206** | **35** |
| 26 | 8521 | 1.1736 | 8827 | 1.1329 | 9142 | 1.0939 | 9468 | 1.0562 | 9804 | 1.0200 | 34 |
| 27 | 8526 | 1.1729 | 8832 | 1.1323 | 9147 | 1.0932 | 9473 | 1.0556 | 9810 | 1.0194 | 33 |
| 28 | 8531 | 1.1722 | 8837 | 1.1316 | 9153 | 1.0926 | 9479 | 1.0550 | 9816 | 1.0188 | 32 |
| 29 | 8536 | 1.1715 | 8842 | 1.1310 | 9158 | 1.0919 | 9484 | 1.0544 | 9821 | 1.0182 | 31 |
| **30** | **8541** | **1.1708** | **8847** | **1.1303** | **9163** | **1.0913** | **9490** | **1.0538** | **9827** | **1.0176** | **30** |
| 31 | 8546 | 1.1702 | 8852 | 1.1296 | 9169 | 1.0907 | 9495 | 1.0532 | 9833 | 1.0170 | 29 |
| 32 | 8551 | 1.1695 | 8858 | 1.1290 | 9174 | 1.0900 | 9501 | 1.0526 | 9838 | 1.0164 | 28 |
| 33 | 8556 | 1.1688 | 8863 | 1.1283 | 9179 | 1.0894 | 9506 | 1.0519 | 9844 | 1.0158 | 27 |
| 34 | 8561 | 1.1681 | 8868 | 1.1276 | 9185 | 1.0888 | 9512 | 1.0513 | 9850 | 1.0152 | 26 |
| **35** | **8566** | **1.1674** | **8873** | **1.1270** | **9190** | **1.0881** | **9517** | **1.0507** | **9856** | **1.0147** | **25** |
| 36 | 8571 | 1.1667 | 8878 | 1.1263 | 9195 | 1.0875 | 9523 | 1.0501 | 9861 | 1.0141 | 24 |
| 37 | 8576 | 1.1660 | 8884 | 1.1257 | 9201 | 1.0869 | 9528 | 1.0495 | 9867 | 1.0135 | 23 |
| 38 | 8581 | 1.1653 | 8889 | 1.1250 | 9206 | 1.0862 | 9534 | 1.0489 | 9873 | 1.0129 | 22 |
| 39 | 8586 | 1.1647 | 8894 | 1.1243 | 9212 | 1.0856 | 9540 | 1.0483 | 9879 | 1.0123 | 21 |
| **40** | **8591** | **1.1640** | **8899** | **1.1237** | **9217** | **1.0850** | **9545** | **1.0477** | **9884** | **1.0117** | **20** |
| 41 | 8596 | 1.1633 | 8904 | 1.1230 | 9222 | 1.0843 | 9551 | 1.0470 | 9890 | 1.0111 | 19 |
| 42 | 8601 | 1.1626 | 8910 | 1.1224 | 9228 | 1.0837 | 9556 | 1.0464 | 9896 | 1.0105 | 18 |
| 43 | 8606 | 1.1619 | 8915 | 1.1217 | 9233 | 1.0831 | 9562 | 1.0458 | 9902 | 1.0099 | 17 |
| 44 | 8611 | 1.1612 | 8920 | 1.1211 | 9239 | 1.0824 | 9567 | 1.0452 | 9907 | 1.0094 | 16 |
| **45** | **8617** | **1.1606** | **8925** | **1.1204** | **9244** | **1.0818** | **9573** | **1.0446** | **9913** | **1.0088** | **15** |
| 46 | 8622 | 1.1599 | 8931 | 1.1197 | 9249 | 1.0812 | 9578 | 1.0440 | 9919 | 1.0082 | 14 |
| 47 | 8627 | 1.1592 | 8936 | 1.1191 | 9255 | 1.0805 | 9584 | 1.0434 | 9925 | 1.0076 | 13 |
| 48 | 8632 | 1.1585 | 8941 | 1.1184 | 9260 | 1.0799 | 9590 | 1.0428 | 9930 | 1.0070 | 12 |
| 49 | 8637 | 1.1578 | 8946 | 1.1178 | 9266 | 1.0793 | 9595 | 1.0422 | 9936 | 1.0064 | 11 |
| **50** | **8642** | **1.1571** | **8952** | **1.1171** | **9271** | **1.0786** | **9601** | **1.0416** | **9942** | **1.0058** | **10** |
| 51 | 8647 | 1.1565 | 8957 | 1.1165 | 9276 | 1.0780 | 9606 | 1.0410 | 9948 | 1.0052 | 9 |
| 52 | 8652 | 1.1558 | 8962 | 1.1158 | 9282 | 1.0774 | 9612 | 1.0404 | 9954 | 1.0047 | 8 |
| 53 | 8657 | 1.1551 | 8967 | 1.1152 | 9287 | 1.0768 | 9618 | 1.0398 | 9959 | 1.0041 | 7 |
| 54 | 8662 | 1.1544 | 8972 | 1.1145 | 9293 | 1.0761 | 9623 | 1.0392 | 9965 | 1.0035 | 6 |
| **55** | **8667** | **1.1538** | **8978** | **1.1139** | **9298** | **1.0755** | **9629** | **1.0385** | **9971** | **1.0029** | **5** |
| 56 | 8672 | 1.1531 | 8983 | 1.1132 | 9303 | 1.0749 | 9634 | 1.0379 | 9977 | 1.0023 | 4 |
| 57 | 8678 | 1.1524 | 8988 | 1.1126 | 9309 | 1.0742 | 9640 | 1.0373 | 9983 | 1.0017 | 3 |
| 58 | 8683 | 1.1517 | 8994 | 1.1119 | 9314 | 1.0736 | 9646 | 1.0367 | 9988 | 1.0012 | 2 |
| 59 | 8688 | 1.1510 | 8999 | 1.1113 | 9320 | 1.0730 | 9651 | 1.0361 | 9994 | 1.0006 | 1 |
| **60** | **8693** | **1.1504** | **9004** | **1.1106** | **9325** | **1.0724** | **9657** | **1.0355** | **1.000** | **1.0000** | **0** |
| ′ | cot | tan | cot | tan | cot | tan | cot | tan | cot | tan | ′ |
| | 49° | | 48° | | 47° | | 46° | | 45° | | |

| | 0° | | 1° | | 2° | | 3° | | |
|---|---|---|---|---|---|---|---|---|---|
| ′ | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | ′ |
| 0 | 1.0000 | Infinite | 1.0002 | 57.2987 | 1.0006 | 28.6537 | 1.0014 | 19.1073 | 60 |
| 1 | 1.0000 | 3437.7468 | 1.0002 | 56.3595 | 1.0006 | 28.4170 | 1.0014 | 19.0019 | 59 |
| 2 | 1.0000 | 1718.8735 | 1.0002 | 55.4505 | 1.0006 | 28.1842 | 1.0014 | 18.8975 | 58 |
| 3 | 1.0000 | 1145.9157 | 1.0002 | 54.5705 | 1.0006 | 27.9551 | 1.0014 | 18.7944 | 57 |
| 4 | 1.0000 | 859.4369 | 1.0002 | 53.7179 | 1.0007 | 27.7298 | 1.0014 | 18.6923 | 56 |
| 5 | 1.0000 | 687.5496 | 1.0002 | 52.8916 | 1.0007 | 27.5080 | 1.0014 | 18.5914 | 55 |
| 6 | 1.0000 | 572.9581 | 1.0002 | 52.0903 | 1.0007 | 27.2898 | 1.0015 | 18.4915 | 54 |
| 7 | 1.0000 | 491.1070 | 1.0002 | 51.3129 | 1.0007 | 27.0750 | 1.0015 | 18.3927 | 53 |
| 8 | 1.0000 | 429.7187 | 1.0002 | 50.5584 | 1.0007 | 26.8636 | 1.0015 | 18.2950 | 52 |
| 9 | 1.0000 | 381.9723 | 1.0002 | 49.8258 | 1.0007 | 26.6555 | 1.0015 | 18.1983 | 51 |
| 10 | 1.0000 | 345.7752 | 1.0002 | 49.1141 | 1.0007 | 26.4505 | 1.0015 | 18.1026 | 50 |
| 11 | 1.0000 | 312.5230 | 1.0002 | 48.4224 | 1.0007 | 26.2487 | 1.0015 | 18.0079 | 49 |
| 12 | 1.0000 | 286.4795 | 1.0002 | 47.7500 | 1.0007 | 26.0499 | 1.0016 | 17.9142 | 48 |
| 13 | 1.0000 | 264.4427 | 1.0002 | 47.0960 | 1.0007 | 25.8542 | 1.0016 | 17.8215 | 47 |
| 14 | 1.0000 | 245.5540 | 1.0002 | 46.4596 | 1.0008 | 25.6613 | 1.0016 | 17.7298 | 46 |
| 15 | 1.0000 | 229.1858 | 1.0002 | 45.8403 | 1.0008 | 25.4713 | 1.0016 | 17.6389 | 45 |
| 16 | 1.0000 | 214.8600 | 1.0002 | 45.2372 | 1.0008 | 25.2841 | 1.0016 | 17.5490 | 44 |
| 17 | 1.0000 | 202.2212 | 1.0003 | 44.6498 | 1.0008 | 25.0997 | 1.0016 | 17.4600 | 43 |
| 18 | 1.0000 | 190.9868 | 1.0003 | 44.0775 | 1.0008 | 24.9179 | 1.0017 | 17.3720 | 42 |
| 19 | 1.0000 | 180.9350 | 1.0003 | 43.5916 | 1.0008 | 24.7387 | 1.0017 | 17.2848 | 41 |
| 20 | 1.0000 | 171.8863 | 1.0003 | 42.9757 | 1.0008 | 24.5621 | 1.0017 | 17.1984 | 40 |
| 21 | 1.0000 | 163.7032 | 1.0003 | 42.4452 | 1.0008 | 24.3880 | 1.0017 | 17.1130 | 39 |
| 22 | 1.0000 | 156.2623 | 1.0003 | 41.9277 | 1.0009 | 24.2164 | 1.0017 | 17.0283 | 38 |
| 23 | 1.0000 | 149.4684 | 1.0003 | 41.4227 | 1.0009 | 24.0471 | 1.0017 | 16.9446 | 37 |
| 24 | 1.0000 | 143.2406 | 1.0003 | 40.9296 | 1.0009 | 23.8802 | 1.0018 | 16.8616 | 36 |
| 25 | 1.0000 | 137.5111 | 1.0003 | 40.4482 | 1.0009 | 23.7156 | 1.0018 | 16.7794 | 35 |
| 26 | 1.0000 | 132.2223 | 1.0003 | 39.9780 | 1.0009 | 23.5533 | 1.0018 | 16.6981 | 34 |
| 27 | 1.0000 | 127.3253 | 1.0003 | 39.5186 | 1.0009 | 23.3932 | 1.0018 | 16.6175 | 33 |
| 28 | 1.0000 | 122.7780 | 1.0003 | 39.0696 | 1.0009 | 23.2352 | 1.0018 | 16.5377 | 32 |
| 29 | 1.0000 | 118.5444 | 1.0003 | 38.6307 | 1.0009 | 23.0794 | 1.0019 | 16.4587 | 31 |
| 30 | 1.0000 | 114.5930 | 1.0003 | 38.2016 | 1.0010 | 22.9256 | 1.0019 | 16.3804 | 30 |
| 31 | 1.0000 | 110.8966 | 1.0004 | 37.7819 | 1.0010 | 22.7739 | 1.0019 | 16.3029 | 29 |
| 32 | 1.0000 | 107.4311 | 1.0004 | 37.3713 | 1.0010 | 22.6241 | 1.0019 | 16.2261 | 28 |
| 33 | 1.0000 | 104.1757 | 1.0004 | 36.9695 | 1.0010 | 22.4764 | 1.0019 | 16.1500 | 27 |
| 34 | 1.0000 | 101.1118 | 1.0004 | 36.5763 | 1.0010 | 22.3305 | 1.0019 | 16.0746 | 26 |
| 35 | 1.0001 | 98.2230 | 1.0004 | 36.1914 | 1.0010 | 22.1865 | 1.0020 | 15.9999 | 25 |
| 36 | 1.0001 | 95.4947 | 1.0004 | 35.8145 | 1.0010 | 22.0444 | 1.0020 | 15.9260 | 24 |
| 37 | 1.0001 | 92.9139 | 1.0004 | 35.4454 | 1.0010 | 21.9041 | 1.0020 | 15.8527 | 23 |
| 38 | 1.0001 | 90.4689 | 1.0004 | 35.0838 | 1.0011 | 21.7656 | 1.0020 | 15.7801 | 22 |
| 39 | 1.0001 | 88.1492 | 1.0004 | 34.7295 | 1.0011 | 21.6288 | 1.0020 | 15.7081 | 21 |
| 40 | 1.0001 | 85.9456 | 1.0004 | 34.3823 | 1.0011 | 21.4937 | 1.0021 | 15.6368 | 20 |
| 41 | 1.0001 | 83.8495 | 1.0004 | 34.0420 | 1.0011 | 21.3603 | 1.0021 | 15.5661 | 19 |
| 42 | 1.0001 | 81.8532 | 1.0004 | 33.7083 | 1.0011 | 21.2285 | 1.0021 | 15.4961 | 18 |
| 43 | 1.0001 | 79.9497 | 1.0004 | 33.3812 | 1.0011 | 21.0984 | 1.0021 | 15.4267 | 17 |
| 44 | 1.0001 | 78.1327 | 1.0005 | 33.0603 | 1.0011 | 20.9698 | 1.0021 | 15.3579 | 16 |
| 45 | 1.0001 | 76.3966 | 1.0005 | 32.7455 | 1.0012 | 20.8428 | 1.0021 | 15.2898 | 15 |
| 46 | 1.0001 | 74.7359 | 1.0005 | 32.4367 | 1.0012 | 20.7174 | 1.0022 | 15.2222 | 14 |
| 47 | 1.0001 | 73.1458 | 1.0005 | 32.1337 | 1.0012 | 20.5934 | 1.0022 | 15.1553 | 13 |
| 48 | 1.0001 | 71.6221 | 1.0005 | 31.8362 | 1.0012 | 20.4709 | 1.0022 | 15.0889 | 12 |
| 49 | 1.0001 | 70.1605 | 1.0005 | 31.5442 | 1.0012 | 20.3499 | 1.0022 | 15.0231 | 11 |
| 50 | 1.0001 | 68.7574 | 1.0005 | 31.2576 | 1.0012 | 20.2303 | 1.0022 | 14.9579 | 10 |
| 51 | 1.0001 | 67.4093 | 1.0005 | 30.9761 | 1.0012 | 20.1121 | 1.0023 | 14.8932 | 9 |
| 52 | 1.0001 | 66.1130 | 1.0005 | 30.6996 | 1.0013 | 19.9952 | 1.0023 | 14.8291 | 8 |
| 53 | 1.0001 | 64.8657 | 1.0005 | 30.4280 | 1.0013 | 19.8798 | 1.0023 | 14.7656 | 7 |
| 54 | 1.0001 | 63.6646 | 1.0005 | 30.1612 | 1.0013 | 19.7656 | 1.0023 | 14.7026 | 6 |
| 55 | 1.0001 | 62.5071 | 1.0006 | 29.8990 | 1.0013 | 19.6528 | 1.0023 | 14.6401 | 5 |
| 56 | 1.0001 | 61.3911 | 1.0006 | 29.6414 | 1.0013 | 19.5412 | 1.0024 | 14.5782 | 4 |
| 57 | 1.0001 | 60.3141 | 1.0006 | 29.3881 | 1.0013 | 19.4309 | 1.0024 | 14.5168 | 3 |
| 58 | 1.0001 | 59.2743 | 1.0006 | 29.1392 | 1.0013 | 19.3218 | 1.0024 | 14.4559 | 2 |
| 59 | 1.0001 | 58.2698 | 1.0006 | 28.8944 | 1.0014 | 19.2140 | 1.0024 | 14.3955 | 1 |
| 60 | 1.0002 | 57.2987 | 1.0006 | 28.6537 | 1.0014 | 19.1073 | 1.0024 | 14.3356 | 0 |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 89° | | 88° | | 87° | | 86° | | |

| ′ | 4° | | 5° | | 6° | | 7° | | ′ |
|---|---|---|---|---|---|---|---|---|---|
| | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | |
| **0** | **1.0024** | **14.3356** | **1.0038** | **11.4737** | **1.0055** | **9.5668** | **1.0075** | **8.2055** | **60** |
| 1 | 1.0025 | 14.2762 | 1.0038 | 11.4357 | 1.0055 | 9.5404 | 1.0075 | 8.1861 | 59 |
| 2 | 1.0025 | 14.2173 | 1.0039 | 11.3979 | 1.0056 | 9.5141 | 1.0076 | 8.1668 | 58 |
| 3 | 1.0025 | 14.1589 | 1.0039 | 11.3604 | 1.0056 | 9.4880 | 1.0076 | 8.1476 | 57 |
| 4 | 1.0025 | 14.1010 | 1.0039 | 11.3231 | 1.0056 | 9.4620 | 1.0077 | 8.1285 | 56 |
| **5** | **1.0025** | **14.0435** | **1.0039** | **11.2861** | **1.0057** | **9.4362** | **1.0077** | **8.1095** | **55** |
| 6 | 1.0026 | 13.9865 | 1.0040 | 11.2493 | 1.0057 | 9.4105 | 1.0077 | 8.0905 | 54 |
| 7 | 1.0026 | 13.9300 | 1.0040 | 11.2128 | 1.0057 | 9.3850 | 1.0078 | 8.0717 | 53 |
| 8 | 1.0026 | 13.8739 | 1.0040 | 11.1765 | 1.0058 | 9.3596 | 1.0078 | 8.0529 | 52 |
| 9 | 1.0026 | 13.8183 | 1.0041 | 11.1404 | 1.0058 | 9.3343 | 1.0078 | 8.0342 | 51 |
| **10** | **1.0026** | **13.7631** | **1.0041** | **11.1045** | **1.0058** | **9.3092** | **1.0079** | **8.0156** | **50** |
| 11 | 1.0027 | 13.7084 | 1.0041 | 11.0689 | 1.0059 | 9.2842 | 1.0079 | 7.9971 | 49 |
| 12 | 1.0027 | 13.6541 | 1.0041 | 11.0336 | 1.0059 | 9.2593 | 1.0079 | 7.9787 | 48 |
| 13 | 1.0027 | 13.6002 | 1.0042 | 10.9984 | 1.0059 | 9.2346 | 1.0080 | 7.9604 | 47 |
| 14 | 1.0027 | 13.5468 | 1.0042 | 10.9635 | 1.0059 | 9.2100 | 1.0080 | 7.9422 | 46 |
| **15** | **1.0028** | **13.4937** | **1.0042** | **10.9288** | **1.0060** | **9.1855** | **1.0081** | **7.9240** | **45** |
| 16 | 1.0028 | 13.4411 | 1.0042 | 10.8943 | 1.0060 | 9.1612 | 1.0081 | 7.9059 | 44 |
| 17 | 1.0028 | 13.3889 | 1.0043 | 10.8600 | 1.0060 | 9.1370 | 1.0081 | 7.8879 | 43 |
| 18 | 1.0028 | 13.3371 | 1.0043 | 10.8260 | 1.0061 | 9.1129 | 1.0082 | 7.8700 | 42 |
| 19 | 1.0028 | 13.2857 | 1.0043 | 10.7921 | 1.0061 | 9.0890 | 1.0082 | 7.8522 | 41 |
| **20** | **1.0029** | **13.2347** | **1.0044** | **10.7585** | **1.0061** | **9.0652** | **1.0083** | **7.8344** | **40** |
| 21 | 1.0029 | 13.1841 | 1.0044 | 10.7251 | 1.0062 | 9.0415 | 1.0083 | 7.8168 | 39 |
| 22 | 1.0029 | 13.1339 | 1.0044 | 10.6919 | 1.0062 | 9.0179 | 1.0083 | 7.7992 | 38 |
| 23 | 1.0029 | 13.0804 | 1.0044 | 10.6589 | 1.0062 | 8.9944 | 1.0084 | 7.7817 | 37 |
| 24 | 1.0030 | 13.0346 | 1.0045 | 10.6261 | 1.0063 | 8.9711 | 1.0084 | 7.7642 | 36 |
| **25** | **1.0030** | **12.9855** | **1.0045** | **10.5935** | **1.0063** | **8.9479** | **1.0084** | **7.7469** | **35** |
| 26 | 1.0030 | 12.9368 | 1.0045 | 10.5611 | 1.0063 | 8.9248 | 1.0085 | 7.7296 | 34 |
| 27 | 1.0030 | 12.8884 | 1.0045 | 10.5289 | 1.0064 | 8.9019 | 1.0085 | 7.7124 | 33 |
| 28 | 1.0030 | 12.8404 | 1.0046 | 10.4969 | 1.0064 | 8.8790 | 1.0086 | 7.6953 | 32 |
| 29 | 1.0031 | 12.7928 | 1.0046 | 10.4651 | 1.0064 | 8.8563 | 1.0086 | 7.6783 | 31 |
| **30** | **1.0031** | **12.7455** | **1.0046** | **10.4334** | **1.0065** | **8.8337** | **1.0086** | **7.6613** | **30** |
| 31 | 1.0031 | 12.6986 | 1.0047 | 10.4020 | 1.0065 | 8.8112 | 1.0087 | 7.6444 | 29 |
| 32 | 1.0031 | 12.6520 | 1.0047 | 10.3708 | 1.0065 | 8.7888 | 1.0087 | 7.6276 | 28 |
| 33 | 1.0032 | 12.6057 | 1.0047 | 10.3397 | 1.0066 | 8.7665 | 1.0087 | 7.6109 | 27 |
| 34 | 1.0032 | 12.5598 | 1.0047 | 10.3089 | 1.0066 | 8.7444 | 1.0088 | 7.5942 | 26 |
| **35** | **1.0032** | **12.5142** | **1.0048** | **10.2782** | **1.0066** | **8.7223** | **1.0088** | **7.5776** | **25** |
| 36 | 1.0032 | 12.4690 | 1.0048 | 10.2477 | 1.0067 | 8.7004 | 1.0089 | 7.5611 | 24 |
| 37 | 1.0033 | 12.4241 | 1.0048 | 10.2174 | 1.0067 | 8.6786 | 1.0089 | 7.5446 | 23 |
| 38 | 1.0033 | 12.3795 | 1.0049 | 10.1873 | 1.0067 | 8.6569 | 1.0089 | 7.5282 | 22 |
| 39 | 1.0033 | 12.3352 | 1.0049 | 10.1573 | 1.0068 | 8.6353 | 1.0090 | 7.5119 | 21 |
| **40** | **1.0033** | **12.2913** | **1.0049** | **10.1275** | **1.0068** | **8.6138** | **1.0090** | **7.4957** | **20** |
| 41 | 1.0033 | 12.2476 | 1.0049 | 10.0979 | 1.0068 | 8.5924 | 1.0091 | 7.4795 | 19 |
| 42 | 1.0034 | 12.2043 | 1.0050 | 10.0685 | 1.0069 | 8.5711 | 1.0091 | 7.4635 | 18 |
| 43 | 1.0034 | 12.1613 | 1.0050 | 10.0392 | 1.0069 | 8.5500 | 1.0091 | 7.4474 | 17 |
| 44 | 1.0034 | 12.1185 | 1.0050 | 10.0101 | 1.0069 | 8.5289 | 1.0092 | 7.4315 | 16 |
| **45** | **1.0034** | **12.0761** | **1.0051** | **9.9812** | **1.0070** | **8.5079** | **1.0092** | **7.4156** | **15** |
| 46 | 1.0035 | 12.0340 | 1.0051 | 9.9525 | 1.0070 | 8.4871 | 1.0093 | 7.3998 | 14 |
| 47 | 1.0035 | 11.9921 | 1.0051 | 9.9239 | 1.0070 | 8.4663 | 1.0093 | 7.3840 | 13 |
| 48 | 1.0035 | 11.9506 | 1.0051 | 9.8955 | 1.0071 | 8.4457 | 1.0093 | 7.3683 | 12 |
| 49 | 1.0035 | 11.9093 | 1.0052 | 9.8672 | 1.0071 | 8.4251 | 1.0094 | 7.3527 | 11 |
| **50** | **1.0036** | **11.8684** | **1.0052** | **9.8391** | **1.0072** | **8.4047** | **1.0094** | **7.3372** | **10** |
| 51 | 1.0036 | 11.8277 | 1.0052 | 9.8112 | 1.0072 | 8.3843 | 1.0095 | 7.3217 | 9 |
| 52 | 1.0036 | 11.7873 | 1.0053 | 9.7834 | 1.0072 | 8.3641 | 1.0095 | 7.3063 | 8 |
| 53 | 1.0036 | 11.7471 | 1.0053 | 9.7558 | 1.0073 | 8.3439 | 1.0095 | 7.2909 | 7 |
| 54 | 1.0037 | 11.7073 | 1.0053 | 9.7283 | 1.0073 | 8.3238 | 1.0096 | 7.2757 | 6 |
| **55** | **1.0037** | **11.6677** | **1.0054** | **9.7010** | **1.0073** | **8.3039** | **1.0096** | **7.2604** | **5** |
| 56 | 1.0037 | 11.6284 | 1.0054 | 9.6739 | 1.0074 | 8.2840 | 1.0097 | 7.2453 | 4 |
| 57 | 1.0037 | 11.5893 | 1.0054 | 9.6469 | 1.0074 | 8.2642 | 1.0097 | 7.2302 | 3 |
| 58 | 1.0038 | 11.5505 | 1.0055 | 9.6200 | 1.0074 | 8.2446 | 1.0097 | 7.2152 | 2 |
| 59 | 1.0038 | 11.5120 | 1.0055 | 9.5933 | 1.0075 | 8.2250 | 1.0098 | 7.2002 | 1 |
| **60** | **1.0038** | **11.4737** | **1.0055** | **9.5668** | **1.0075** | **8.2055** | **1.0098** | **7.1853** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 85° | | 84° | | 83° | | 82° | | |

| ′ | 8° Secant | 8° Co-s't | 9° Secant | 9° Co-s't | 10° Secant | 10° Co-s't | 11° Secant | 11° Co-s't | ′ |
|---|---|---|---|---|---|---|---|---|---|
| **0** | **1.0098** | **7.1853** | **1.0125** | **6.3925** | **1.0154** | **5.7588** | **1.0187** | **5.2408** | **60** |
| 1 | 1.0099 | 7.1705 | 1.0125 | 6.3807 | 1.0155 | 5.7493 | 1.0188 | 5.2330 | 59 |
| 2 | 1.0099 | 7.1557 | 1.0126 | 6.3691 | 1.0155 | 5.7398 | 1.0188 | 5.2252 | 58 |
| 3 | 1.0100 | 7.1410 | 1.0126 | 6.3574 | 1.0156 | 5.7304 | 1.0189 | 5.2174 | 57 |
| 4 | 1.0100 | 7.1263 | 1.0127 | 6.3458 | 1.0156 | 5.7210 | 1.0189 | 5.2097 | 56 |
| **5** | **1.0100** | **7.1117** | **1.0127** | **6.3343** | **1.0157** | **5.7117** | **1.0190** | **5.2019** | **55** |
| 6 | 1.0101 | 7.0972 | 1.0127 | 6.3228 | 1.0157 | 5.7023 | 1.0191 | 5.1942 | 54 |
| 7 | 1.0101 | 7.0827 | 1.0128 | 6.3113 | 1.0158 | 5.6930 | 1.0191 | 5.1865 | 53 |
| 8 | 1.0102 | 7.0683 | 1.0128 | 6.2999 | 1.0158 | 5.6838 | 1.0192 | 5.1789 | 52 |
| 9 | 1.0102 | 7.0539 | 1.0129 | 6.2885 | 1.0159 | 5.6745 | 1.0192 | 5.1712 | 51 |
| **10** | **1.0102** | **7.0396** | **1.0129** | **6.2772** | **1.0159** | **5.6653** | **1.0193** | **5.1636** | **50** |
| 11 | 1.0103 | 7.0254 | 1.0130 | 6.2659 | 1.0160 | 5.6562 | 1.0194 | 5.1560 | 49 |
| 12 | 1.0103 | 7.0112 | 1.0130 | 6.2546 | 1.0161 | 5.6470 | 1.0194 | 5.1484 | 48 |
| 13 | 1.0104 | 6.9971 | 1.0131 | 6.2434 | 1.0161 | 5.6379 | 1.0195 | 5.1409 | 47 |
| 14 | 1.0104 | 6.9830 | 1.0131 | 6.2323 | 1.0162 | 5.6288 | 1.0195 | 5.1333 | 46 |
| **15** | **1.0105** | **6.9690** | **1.0132** | **6.2211** | **1.0162** | **5.6198** | **1.0196** | **5.1258** | **45** |
| 16 | 1.0105 | 6.9550 | 1.0132 | 6.2100 | 1.0163 | 5.6107 | 1.0197 | 5.1183 | 44 |
| 17 | 1.0105 | 6.9411 | 1.0133 | 6.1990 | 1.0163 | 5.6017 | 1.0197 | 5.1109 | 43 |
| 18 | 1.0106 | 6.9273 | 1.0133 | 6.1880 | 1.0164 | 5.5928 | 1.0198 | 5.1034 | 42 |
| 19 | 1.0106 | 6.9135 | 1.0134 | 6.1770 | 1.0164 | 5.5838 | 1.0198 | 5.0960 | 41 |
| **20** | **1.0107** | **6.8998** | **1.0134** | **6.1661** | **1.0165** | **5.5749** | **1.0199** | **5.0886** | **40** |
| 21 | 1.0107 | 6.8861 | 1.0135 | 6.1552 | 1.0165 | 5.5660 | 1.0199 | 5.0813 | 39 |
| 22 | 1.0108 | 6.8725 | 1.0135 | 6.1443 | 1.0166 | 5.5572 | 1.0200 | 5.0739 | 38 |
| 23 | 1.0108 | 6.8589 | 1.0136 | 6.1335 | 1.0166 | 5.5484 | 1.0201 | 5.0666 | 37 |
| 24 | 1.0108 | 6.8454 | 1.0136 | 6.1227 | 1.0167 | 5.5396 | 1.0201 | 5.0593 | 36 |
| **25** | **1.0109** | **6.8320** | **1.0137** | **6.1120** | **1.0168** | **5.5308** | **1.0202** | **5.0520** | **35** |
| 26 | 1.0109 | 6.8186 | 1.0137 | 6.1013 | 1.0168 | 5.5221 | 1.0202 | 5.0447 | 34 |
| 27 | 1.0110 | 6.8052 | 1.0138 | 6.0906 | 1.0169 | 5.5134 | 1.0203 | 5.0375 | 33 |
| 28 | 1.0110 | 6.7919 | 1.0138 | 6.0800 | 1.0169 | 5.5047 | 1.0204 | 5.0302 | 32 |
| 29 | 1.0111 | 6.7787 | 1.0139 | 6.0694 | 1.0170 | 5.4960 | 1.0204 | 5.0230 | 31 |
| **30** | **1.0111** | **6.7655** | **1.0139** | **6.0589** | **1.0170** | **5.4874** | **1.0205** | **5.0158** | **30** |
| 31 | 1.0111 | 6.7523 | 1.0139 | 6.0483 | 1.0171 | 5.4788 | 1.0205 | 5.0087 | 29 |
| 32 | 1.0112 | 6.7392 | 1.0140 | 6.0379 | 1.0171 | 5.4702 | 1.0206 | 5.0015 | 28 |
| 33 | 1.0112 | 6.7262 | 1.0141 | 6.0274 | 1.0172 | 5.4617 | 1.0207 | 4.9944 | 27 |
| 34 | 1.0113 | 6.7132 | 1.0141 | 6.0170 | 1.0173 | 5.4532 | 1.0207 | 4.9873 | 26 |
| **35** | **1.0113** | **6.7003** | **1.0141** | **6.0067** | **1.0173** | **5.4447** | **1.0208** | **4.9803** | **25** |
| 36 | 1.0114 | 6.6874 | 1.0142 | 5.9963 | 1.0174 | 5.4362 | 1.0209 | 4.9732 | 24 |
| 37 | 1.0114 | 6.6745 | 1.0142 | 5.9860 | 1.0174 | 5.4278 | 1.0209 | 4.9662 | 23 |
| 38 | 1.0115 | 6.6618 | 1.0143 | 5.9758 | 1.0175 | 5.4194 | 1.0210 | 4.9591 | 22 |
| 39 | 1.0115 | 6.6490 | 1.0143 | 5.9655 | 1.0175 | 5.4110 | 1.0210 | 4.9521 | 21 |
| **40** | **1.0115** | **6.6363** | **1.0144** | **5.9554** | **1.0176** | **5.4026** | **1.0211** | **4.9452** | **20** |
| 41 | 1.0116 | 6.6237 | 1.0145 | 5.9452 | 1.0176 | 5.3943 | 1.0212 | 4.9382 | 19 |
| 42 | 1.0116 | 6.6111 | 1.0145 | 5.9351 | 1.0177 | 5.3860 | 1.0212 | 4.9313 | 18 |
| 43 | 1.0117 | 6.5986 | 1.0145 | 5.9250 | 1.0178 | 5.3777 | 1.0213 | 4.9244 | 17 |
| 44 | 1.0117 | 6.5861 | 1.0146 | 5.9150 | 1.0178 | 5.3695 | 1.0213 | 4.9175 | 16 |
| **45** | **1.0118** | **6.5736** | **1.0147** | **5.9049** | **1.0179** | **5.3612** | **1.0214** | **4.9106** | **15** |
| 46 | 1.0118 | 6.5612 | 1.0147 | 5.8950 | 1.0179 | 5.3530 | 1.0215 | 4.9037 | 14 |
| 47 | 1.0119 | 6.5489 | 1.0148 | 5.8850 | 1.0180 | 5.3449 | 1.0215 | 4.8969 | 13 |
| 48 | 1.0119 | 6.5365 | 1.0148 | 5.8751 | 1.0180 | 5.3367 | 1.0216 | 4.8901 | 12 |
| 49 | 1.0120 | 6.5243 | 1.0149 | 5.8652 | 1.0181 | 5.3286 | 1.0217 | 4.8833 | 11 |
| **50** | **1.0120** | **6.5121** | **1.0149** | **5.8554** | **1.0181** | **5.3205** | **1.0217** | **4.8765** | **10** |
| 51 | 1.0120 | 6.4999 | 1.0150 | 5.8456 | 1.0182 | 5.3124 | 1.0218 | 4.8697 | 9 |
| 52 | 1.0121 | 6.4878 | 1.0150 | 5.8358 | 1.0183 | 5.3044 | 1.0218 | 4.8630 | 8 |
| 53 | 1.0121 | 6.4757 | 1.0151 | 5.8261 | 1.0183 | 5.2963 | 1.0219 | 4.8563 | 7 |
| 54 | 1.0122 | 6.4637 | 1.0151 | 5.8163 | 1.0184 | 5.2883 | 1.0220 | 4.8496 | 6 |
| **55** | **1.0122** | **6.4517** | **1.0152** | **5.8067** | **1.0184** | **5.2804** | **1.0220** | **4.8429** | **5** |
| 56 | 1.0123 | 6.4398 | 1.0152 | 5.7970 | 1.0185 | 5.2724 | 1.0221 | 4.8362 | 4 |
| 57 | 1.0123 | 6.4279 | 1.0153 | 5.7874 | 1.0185 | 5.2645 | 1.0222 | 4.8296 | 3 |
| 58 | 1.0124 | 6.4160 | 1.0153 | 5.7778 | 1.0186 | 5.2566 | 1.0222 | 4.8229 | 2 |
| 59 | 1.0124 | 6.4042 | 1.0154 | 5.7683 | 1.0187 | 5.2487 | 1.0223 | 4.8163 | 1 |
| **60** | **1.0125** | **6.3925** | **1.0154** | **5.7588** | **1.0187** | **5.2408** | **1.0223** | **4.8097** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 81° | | 80° | | 79° | | 78° | | |

| | 12° | | 13° | | 14° | | 15° | | |
|---|---|---|---|---|---|---|---|---|---|
| ′ | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | ′ |
| **0** | **1.0223** | **4.8097** | **1.0263** | **4.4454** | **1.0306** | **4.1336** | **1.0353** | **3.8637** | **60** |
| 1 | 1.0224 | 4.8032 | 1.0264 | 4.4398 | 1.0307 | 4.1287 | 1.0354 | 3.8595 | 59 |
| 2 | 1.0225 | 4.7966 | 1.0264 | 4.4342 | 1.0308 | 4.1239 | 1.0354 | 3.8553 | 58 |
| 3 | 1.0225 | 4.7901 | 1.0265 | 4.4287 | 1.0308 | 4.1191 | 1.0355 | 3.8512 | 57 |
| 4 | 1.0226 | 4.7835 | 1.0266 | 4.4231 | 1.0309 | 4.1144 | 1.0356 | 3.8470 | 56 |
| **5** | **1.0227** | **4.7771** | **1.0266** | **4.4176** | **1.0310** | **4.1096** | **1.0357** | **3.8428** | **55** |
| 6 | 1.0227 | 4.7706 | 1.0267 | 4.4121 | 1.0311 | 4.1048 | 1.0358 | 3.8387 | 54 |
| 7 | 1.0228 | 4.7641 | 1.0268 | 4.4066 | 1.0311 | 4.1001 | 1.0358 | 3.8346 | 53 |
| 8 | 1.0228 | 4.7577 | 1.0269 | 4.4011 | 1.0312 | 4.0954 | 1.0359 | 3.8304 | 52 |
| 9 | 1.0229 | 4.7512 | 1.0269 | 4.3956 | 1.0313 | 4.0906 | 1.0360 | 3.8263 | 51 |
| **10** | **1.0230** | **4.7448** | **1.0270** | **4.3901** | **1.0314** | **4.0859** | **1.0361** | **3.8222** | **50** |
| 11 | 1.0230 | 4.7384 | 1.0271 | 4.3847 | 1.0314 | 4.0812 | 1.0362 | 3.8181 | 49 |
| 12 | 1.0231 | 4.7320 | 1.0271 | 4.3792 | 1.0315 | 4.0765 | 1.0363 | 3.8140 | 48 |
| 13 | 1.0232 | 4.7257 | 1.0272 | 4.3738 | 1.0316 | 4.0718 | 1.0363 | 3.8100 | 47 |
| 14 | 1.0232 | 4.7194 | 1.0273 | 4.3684 | 1.0317 | 4.0672 | 1.0364 | 3.8059 | 46 |
| **15** | **1.0233** | **4.7130** | **1.0273** | **4.3630** | **1.0317** | **4.0625** | **1.0365** | **3.8018** | **45** |
| 16 | 1.0234 | 4.7067 | 1.0274 | 4.3576 | 1.0318 | 4.0579 | 1.0366 | 3.7978 | 44 |
| 17 | 1.0234 | 4.7004 | 1.0275 | 4.3522 | 1.0319 | 4.0532 | 1.0367 | 3.7937 | 43 |
| 18 | 1.0235 | 4.6942 | 1.0276 | 4.3469 | 1.0320 | 4.0486 | 1.0367 | 3.7897 | 42 |
| 19 | 1.0236 | 4.6879 | 1.0276 | 4.3415 | 1.0320 | 4.0440 | 1.0368 | 3.7857 | 41 |
| **20** | **1.0236** | **4.6817** | **1.0277** | **4.3362** | **1.0321** | **4.0394** | **1.0369** | **3.7817** | **40** |
| 21 | 1.0237 | 4.6755 | 1.0278 | 4.3309 | 1.0322 | 4.0348 | 1.0370 | 3.7777 | 39 |
| 22 | 1.0238 | 4.6692 | 1.0278 | 4.3256 | 1.0323 | 4.0302 | 1.0371 | 3.7737 | 38 |
| 23 | 1.0238 | 4.6631 | 1.0279 | 4.3203 | 1.0324 | 4.0256 | 1.0372 | 3.7697 | 37 |
| 24 | 1.0239 | 4.6569 | 1.0280 | 4.3150 | 1.0324 | 4.0211 | 1.0372 | 3.7657 | 36 |
| **25** | **1.0240** | **4.6507** | **1.0281** | **4.3098** | **1.0325** | **4.0165** | **1.0373** | **3.7617** | **35** |
| 26 | 1.0240 | 4.6446 | 1.0281 | 4.3045 | 1.0326 | 4.0120 | 1.0374 | 3.7577 | 34 |
| 27 | 1.0241 | 4.6385 | 1.0282 | 4.2993 | 1.0327 | 4.0075 | 1.0375 | 3.7538 | 33 |
| 28 | 1.0241 | 4.6324 | 1.0283 | 4.2941 | 1.0327 | 4.0029 | 1.0376 | 3.7498 | 32 |
| 29 | 1.0242 | 4.6263 | 1.0283 | 4.2889 | 1.0328 | 3.9984 | 1.0377 | 3.7459 | 31 |
| **30** | **1.0243** | **4.6202** | **1.0284** | **4.2837** | **1.0329** | **3.9939** | **1.0377** | **3.7420** | **30** |
| 31 | 1.0243 | 4.6142 | 1.0285 | 4.2785 | 1.0330 | 3.9894 | 1.0378 | 3.7381 | 29 |
| 32 | 1.0244 | 4.6081 | 1.0286 | 4.2733 | 1.0331 | 3.9850 | 1.0379 | 3.7341 | 28 |
| 33 | 1.0245 | 4.6021 | 1.0286 | 4.2681 | 1.0331 | 3.9805 | 1.0380 | 3.7302 | 27 |
| 34 | 1.0245 | 4.5961 | 1.0287 | 4.2630 | 1.0332 | 3.9760 | 1.0381 | 3.7263 | 26 |
| **35** | **1.0246** | **4.5901** | **1.0288** | **4.2579** | **1.0333** | **3.9716** | **1.0382** | **3.7225** | **25** |
| 36 | 1.0247 | 4.5841 | 1.0288 | 4.2527 | 1.0334 | 3.9672 | 1.0383 | 3.7186 | 24 |
| 37 | 1.0247 | 4.5782 | 1.0289 | 4.2476 | 1.0334 | 3.9627 | 1.0383 | 3.7147 | 23 |
| 38 | 1.0248 | 4.5722 | 1.0290 | 4.2425 | 1.0335 | 3.9583 | 1.0384 | 3.7108 | 22 |
| 39 | 1.0249 | 4.5663 | 1.0291 | 4.2375 | 1.0336 | 3.9539 | 1.0385 | 3.7070 | 21 |
| **40** | **1.0249** | **4.5604** | **1.0291** | **4.2324** | **1.0337** | **3.9495** | **1.0386** | **3.7031** | **20** |
| 41 | 1.0250 | 4.5545 | 1.0292 | 4.2273 | 1.0338 | 3.9451 | 1.0387 | 3.6993 | 19 |
| 42 | 1.0251 | 4.5486 | 1.0293 | 4.2223 | 1.0338 | 3.9408 | 1.0388 | 3.6955 | 18 |
| 43 | 1.0251 | 4.5428 | 1.0294 | 4.2173 | 1.0339 | 3.9364 | 1.0388 | 3.6917 | 17 |
| 44 | 1.0252 | 4.5369 | 1.0294 | 4.2122 | 1.0340 | 3.9320 | 1.0389 | 3.6878 | 16 |
| **45** | **1.0253** | **4.5311** | **1.0295** | **4.2072** | **1.0341** | **3.9277** | **1.0390** | **3.6840** | **15** |
| 46 | 1.0253 | 4.5253 | 1.0296 | 4.2022 | 1.0342 | 3.9234 | 1.0391 | 3.6803 | 14 |
| 47 | 1.0254 | 4.5195 | 1.0297 | 4.1973 | 1.0342 | 3.9190 | 1.0392 | 3.6765 | 13 |
| 48 | 1.0255 | 4.5137 | 1.0297 | 4.1923 | 1.0343 | 3.9147 | 1.0393 | 3.6727 | 12 |
| 49 | 1.0256 | 4.5079 | 1.0298 | 4.1873 | 1.0344 | 3.9104 | 1.0394 | 3.6689 | 11 |
| **50** | **1.0256** | **4.5022** | **1.0299** | **4.1824** | **1.0345** | **3.9061** | **1.0394** | **3.6652** | **10** |
| 51 | 1.0257 | 4.4964 | 1.0299 | 4.1774 | 1.0346 | 3.9018 | 1.0395 | 3.6614 | 9 |
| 52 | 1.0258 | 4.4907 | 1.0300 | 4.1725 | 1.0346 | 3.8976 | 1.0396 | 3.6576 | 8 |
| 53 | 1.0258 | 4.4850 | 1.0301 | 4.1676 | 1.0347 | 3.8933 | 1.0397 | 3.6539 | 7 |
| 54 | 1.0259 | 4.4793 | 1.0302 | 4.1627 | 1.0348 | 3.8890 | 1.0398 | 3.6502 | 6 |
| **55** | **1.0260** | **4.4736** | **1.0302** | **4.1578** | **1.0349** | **3.8848** | **1.0399** | **3.6465** | **5** |
| 56 | 1.0260 | 4.4679 | 1.0303 | 4.1529 | 1.0350 | 3.8806 | 1.0400 | 3.6427 | 4 |
| 57 | 1.0261 | 4.4623 | 1.0304 | 4.1481 | 1.0350 | 3.8763 | 1.0400 | 3.6390 | 3 |
| 58 | 1.0262 | 4.4566 | 1.0305 | 4.1432 | 1.0351 | 3.8721 | 1.0401 | 3.6353 | 2 |
| 59 | 1.0262 | 4.4510 | 1.0305 | 4.1384 | 1.0352 | 3.8679 | 1.0402 | 3.6316 | 1 |
| **60** | **1.0263** | **4.4454** | **1.0306** | **4.1336** | **1.0353** | **3.8637** | **1.0403** | **3.6280** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 77° | | 76° | | 75° | | 74° | | |

| | 16° | | 17° | | 18° | | 19° | | |
|---|---|---|---|---|---|---|---|---|---|
| ′ | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | ′ |
| **0** | **1.0403** | **3.6280** | **1.0457** | **3.4203** | **1.0515** | **3.2361** | **1.0576** | **3.0716** | **60** |
| 1 | 1.0404 | 3.6243 | 1.0458 | 3.4171 | 1.0516 | 3.2332 | 1.0577 | 3.0690 | 59 |
| 2 | 1.0405 | 3.6206 | 1.0459 | 3.4138 | 1.0517 | 3.2303 | 1.0578 | 3.0664 | 58 |
| 3 | 1.0406 | 3.6169 | 1.0460 | 3.4106 | 1.0518 | 3.2274 | 1.0579 | 3.0638 | 57 |
| 4 | 1.0406 | 3.6133 | 1.0461 | 3.4073 | 1.0519 | 3.2245 | 1.0580 | 3.0612 | 56 |
| **5** | **1.0407** | **3.6096** | **1.0462** | **3.4041** | **1.0520** | **3.2216** | **1.0582** | **3.0586** | **55** |
| 6 | 1.0408 | 3.6060 | 1.0463 | 3.4009 | 1.0521 | 3.2188 | 1.0583 | 3.0561 | 54 |
| 7 | 1.0409 | 3.6024 | 1.0463 | 3.3977 | 1.0522 | 3.2159 | 1.0584 | 3.0535 | 53 |
| 8 | 1.0410 | 3.5988 | 1.0464 | 3.3945 | 1.0523 | 3.2131 | 1.0585 | 3.0509 | 52 |
| 9 | 1.0411 | 3.5951 | 1.0465 | 3.3913 | 1.0524 | 3.2102 | 1.0586 | 3.0484 | 51 |
| **10** | **1.0412** | **3.5915** | **1.0466** | **3.3881** | **1.0525** | **3.2074** | **1.0587** | **3.0458** | **50** |
| 11 | 1.0413 | 3.5879 | 1.0467 | 3.3849 | 1.0526 | 3.2045 | 1.0588 | 3.0433 | 49 |
| 12 | 1.0413 | 3.5843 | 1.0468 | 3.3817 | 1.0527 | 3.2017 | 1.0589 | 3.0407 | 48 |
| 13 | 1.0414 | 3.5808 | 1.0469 | 3.3785 | 1.0528 | 3.1989 | 1.0590 | 3.0382 | 47 |
| 14 | 1.0415 | 3.5772 | 1.0470 | 3.3754 | 1.0529 | 3.1960 | 1.0591 | 3.0357 | 46 |
| **15** | **1.0416** | **3.5736** | **1.0471** | **3.3722** | **1.0530** | **3.1932** | **1.0592** | **3.0331** | **45** |
| 16 | 1.0417 | 3.5700 | 1.0472 | 3.3691 | 1.0531 | 3.1904 | 1.0593 | 3.0306 | 44 |
| 17 | 1.0418 | 3.5665 | 1.0473 | 3.3659 | 1.0532 | 3.1876 | 1.0594 | 3.0281 | 43 |
| 18 | 1.0419 | 3.5629 | 1.0474 | 3.3628 | 1.0533 | 3.1848 | 1.0595 | 3.0256 | 42 |
| 19 | 1.0420 | 3.5594 | 1.0475 | 3.3596 | 1.0534 | 3.1820 | 1.0597 | 3 0231 | 41 |
| **20** | **1.0421** | **3.5559** | **1.0476** | **3.3565** | **1.0535** | **3.1792** | **1.0598** | **3.0206** | **40** |
| 21 | 1.0421 | 3.5523 | 1.0477 | 3.3534 | 1.0536 | 3.1764 | 1.0599 | 3.0181 | 39 |
| 22 | 1.0422 | 3.5488 | 1.0478 | 3.3502 | 1.0537 | 3.1736 | 1.0600 | 3.0156 | 38 |
| 23 | 1.0423 | 3.5453 | 1.0479 | 3.3471 | 1.0538 | 3.1708 | 1.0601 | 3.0131 | 37 |
| 24 | 1.0424 | 3.5418 | 1.0480 | 3.3440 | 1.0539 | 3.1681 | 1.0602 | 3.0106 | 36 |
| **25** | **1.0425** | **3.5383** | **1.0481** | **3.3409** | **1.0540** | **3.1653** | **1.0603** | **3.0081** | **35** |
| 26 | 1.0426 | 3.5348 | 1.0481 | 3.3378 | 1.0541 | 3.1625 | 1.0604 | 3.0056 | 34 |
| 27 | 1.0427 | 3.5313 | 1.0482 | 3.3347 | 1.0542 | 3.1598 | 1.0605 | 3.0031 | 33 |
| 28 | 1.0428 | 3.5279 | 1.0483 | 3.3317 | 1.0543 | 3.1570 | 1.0606 | 3.0007 | 32 |
| 29 | 1.0429 | 3.5244 | 1.0484 | 3.3286 | 1.0544 | 3.1543 | 1.0607 | 2.9982 | 31 |
| **30** | **1.0429** | **3.5209** | **1.0485** | **3.3255** | **1.0545** | **3.1515** | **1.0608** | **2.9957** | **30** |
| 31 | 1.0430 | 3.5175 | 1.0486 | 3.3224 | 1.0546 | 3.1488 | 1.0610 | 2.9933 | 29 |
| 32 | 1.0431 | 3.5140 | 1.0487 | 3.3194 | 1.0547 | 3.1461 | 1.0611 | 2.9908 | 28 |
| 33 | 1.0432 | 3.5106 | 1.0488 | 3.3163 | 1.0548 | 3.1433 | 1.0612 | 2.9884 | 27 |
| 34 | 1.0433 | 3.5072 | 1.0489 | 3.3133 | 1.0549 | 3.1406 | 1 0613 | 2.9859 | 26 |
| **35** | **1.0434** | **3.5037** | **1.0490** | **3.3102** | **1.0550** | **3.1379** | **1.0614** | **2.9835** | **25** |
| 36 | 1.0435 | 3.5003 | 1.0491 | 3.3072 | 1.0551 | 3.1352 | 1.0615 | 2.9811 | 24 |
| 37 | 1.0436 | 3.4969 | 1.0492 | 3.3042 | 1.0552 | 3.1325 | 1.0616 | 2.9786 | 23 |
| 38 | 1.0437 | 3.4935 | 1.0493 | 3.3012 | 1.0553 | 3.1298 | 1.0617 | 2.9762 | 22 |
| 39 | 1.0438 | 3.4901 | 1.0494 | 3.2981 | 1.0554 | 3.1271 | 1.0618 | 2.9738 | 21 |
| **40** | **1.0439** | **3.4867** | **1.0495** | **3.2951** | **1.0555** | **3.1244** | **1.0619** | **2.9713** | **20** |
| 41 | 1.0439 | 3.4833 | 1.0496 | 3.2921 | 1.0556 | 3.1217 | 1.0621 | 2.9689 | 19 |
| 42 | 1.0440 | 3.4799 | 1.0497 | 3.2891 | 1.0557 | 3.1190 | 1.0622 | 2.9665 | 18 |
| 43 | 1.0441 | 3.4766 | 1.0498 | 3.2861 | 1.0558 | 3.1163 | 1.0623 | 2.9641 | 17 |
| 44 | 1.0442 | 3.4732 | 1.0499 | 3.2831 | 1.0559 | 3.1137 | 1.0624 | 2.9617 | 16 |
| **45** | **1.0443** | **3.4699** | **1.0500** | **3.2801** | **1.0560** | **3.1110** | **1.0625** | **2.9593** | **15** |
| 46 | 1.0444 | 3.4665 | 1.0501 | 3.2772 | 1.0561 | 3.1083 | 1.0626 | 2.9569 | 14 |
| 47 | 1.0445 | 3.4632 | 1.0502 | 3.2742 | 1.0563 | 3.1057 | 1.0627 | 2.9545 | 13 |
| 48 | 1.0446 | 3.4598 | 1.0503 | 3.2712 | 1.0564 | 3.1030 | 1.0628 | 2.9521 | 12 |
| 49 | 1.0447 | 3.4565 | 1.0504 | 3.2683 | 1.0565 | 3.1004 | 1.0629 | 2.9497 | 11 |
| **50** | **1.0448** | **3.4532** | **1.0505** | **3.2653** | **1.0566** | **3.0977** | **1.0631** | **2.9474** | **10** |
| 51 | 1.0449 | 3.4499 | 1.0506 | 3.2624 | 1.0567 | 3.0951 | 1.0632 | 2.9450 | 9 |
| 52 | 1.0450 | 3.4465 | 1.0507 | 3.2594 | 1.0568 | 3.0925 | 1.0633 | 2.9426 | 8 |
| 53 | 1.0450 | 3.4432 | 1.0508 | 3.2565 | 1.0569 | 3.0898 | 1.0634 | 2.9403 | 7 |
| 54 | 1.0451 | 3.4399 | 1.0509 | 3.2535 | 1.0570 | 3.0872 | 1.0635 | 2.9379 | 6 |
| **55** | **1.0452** | **3.4367** | **1.0510** | **3.2506** | **1.0571** | **3.0846** | **1.0636** | **2.9355** | **5** |
| 56 | 1.0453 | 3.4334 | 1.0511 | 3.2477 | 1.0572 | 3.0820 | 1.0637 | 2.9332 | 4 |
| 57 | 1.0454 | 3.4301 | 1.0512 | 3.2448 | 1.0573 | 3.0794 | 1.0638 | 2.9308 | 3 |
| 58 | 1.0455 | 3.4268 | 1.0513 | 3.2419 | 1.0574 | 3.0768 | 1.0640 | 2.9285 | 2 |
| 59 | 1.0456 | 3.4236 | 1.0514 | 3.2390 | 1.0575 | 3.0741 | 1.0641 | 2.9261 | 1 |
| **60** | **1.0457** | **3.4203** | **1.0515** | **3.2361** | **1.0576** | **3.0716** | **1.0642** | **2.9238** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 73° | | 72° | | 71° | | 70° | | |

| ′ | 20° | | 21° | | 22° | | 23° | | ′ |
|---|---|---|---|---|---|---|---|---|---|
| | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | |
| **0** | **1.0642** | **2.9238** | **1.0711** | **2.7904** | **1.0785** | **2.6695** | **1.0864** | **2.5593** | **60** |
| 1 | 1.0643 | 2.9215 | 1.0713 | 2.7883 | 1.0787 | 2.6675 | 1.0865 | 2.5576 | 59 |
| 2 | 1.0644 | 2.9191 | 1.0714 | 2.7862 | 1.0788 | 2.6656 | 1.0866 | 2.5558 | 58 |
| 3 | 1.0645 | 2.9168 | 1.0715 | 2.7841 | 1.0789 | 2.6637 | 1.0868 | 2.5541 | 57 |
| 4 | 1.0646 | 2.9145 | 1.0716 | 2.7820 | 1.0790 | 2.6618 | 1.0869 | 2.5523 | 56 |
| **5** | **1.0647** | **2.9122** | **1.0717** | **2.7799** | **1.0792** | **2.6599** | **1.0870** | **2.5506** | **55** |
| 6 | 1.0649 | 2.9099 | 1.0719 | 2.7778 | 1.0793 | 2.6580 | 1.0872 | 2.5488 | 54 |
| 7 | 1.0650 | 2.9075 | 1.0720 | 2.7757 | 1.0794 | 2.6561 | 1.0873 | 2.5471 | 53 |
| 8 | 1.0651 | 2.9052 | 1.0721 | 2.7736 | 1.0796 | 2.6542 | 1.0874 | 2.5454 | 52 |
| 9 | 1.0652 | 2.9029 | 1.0722 | 2.7715 | 1.0797 | 2.6523 | 1.0876 | 2.5436 | 51 |
| **10** | **1.0653** | **2.9006** | **1.0723** | **2.7695** | **1.0798** | **2.6504** | **1.0877** | **2.5419** | **50** |
| 11 | 1.0654 | 2.8983 | 1.0725 | 2.7674 | 1.0799 | 2.6485 | 1.0878 | 2.5402 | 49 |
| 12 | 1.0655 | 2.8960 | 1.0726 | 2.7653 | 1.0801 | 2.6466 | 1.0880 | 2.5384 | 48 |
| 13 | 1.0656 | 2.8938 | 1.0727 | 2.7632 | 1.0802 | 2.6447 | 1.0881 | 2.5367 | 47 |
| 14 | 1.0658 | 2.8915 | 1.0728 | 2.7612 | 1.0803 | 2.6428 | 1.0882 | 2.5350 | 46 |
| **15** | **1.0659** | **2.8892** | **1.0730** | **2.7591** | **1.0804** | **2.6410** | **1.0884** | **2.5333** | **45** |
| 16 | 1.0660 | 2.8869 | 1.0731 | 2.7570 | 1.0806 | 2.6391 | 1.0885 | 2.5316 | 44 |
| 17 | 1.0661 | 2.8846 | 1.0732 | 2.7550 | 1.0807 | 2.6372 | 1.0887 | 2.5299 | 43 |
| 18 | 1.0662 | 2.8824 | 1.0733 | 2.7529 | 1.0808 | 2.6353 | 1.0888 | 2.5282 | 42 |
| 19 | 1.0663 | 2.8801 | 1.0734 | 2.7509 | 1.0810 | 2.6335 | 1.0889 | 2.5264 | 41 |
| **20** | **1.0665** | **2.8779** | **1.0736** | **2.7488** | **1.0811** | **2.6316** | **1.0891** | **2.5247** | **40** |
| 21 | 1.0666 | 2.8756 | 1.0737 | 2.7468 | 1.0812 | 2.6298 | 1.0892 | 2.5230 | 39 |
| 22 | 1.0667 | 2.8733 | 1.0738 | 2.7447 | 1.0814 | 2.6279 | 1.0893 | 2.5213 | 38 |
| 23 | 1.0668 | 2.8711 | 1.0739 | 2.7427 | 1.0815 | 2.6260 | 1.0895 | 2.5196 | 37 |
| 24 | 1.0669 | 2.8688 | 1.0740 | 2.7406 | 1.0816 | 2.6242 | 1.0896 | 2.5179 | 36 |
| **25** | **1.0670** | **2.8666** | **1.0742** | **2.7386** | **1.0817** | **2.6223** | **1.0898** | **2.5163** | **35** |
| 26 | 1.0671 | 2.8644 | 1.0743 | 2.7366 | 1.0819 | 2.6205 | 1.0899 | 2.5146 | 34 |
| 27 | 1.0673 | 2.8621 | 1.0744 | 2.7346 | 1.0820 | 2.6186 | 1.0900 | 2.5129 | 33 |
| 28 | 1.0674 | 2.8599 | 1.0745 | 2.7325 | 1.0821 | 2.6168 | 1.0902 | 2.5112 | 32 |
| 29 | 1.0675 | 2.8577 | 1.0747 | 2.7305 | 1.0823 | 2.6150 | 1.0903 | 2.5095 | 31 |
| **30** | **1.0676** | **2.8554** | **1.0748** | **2.7285** | **1.0824** | **2.6131** | **1.0904** | **2.5078** | **30** |
| 31 | 1.0677 | 2.8532 | 1.0749 | 2.7265 | 1.0825 | 2.6113 | 1.0906 | 2.5062 | 29 |
| 32 | 1.0678 | 2.8510 | 1.0750 | 2.7245 | 1.0827 | 2.6095 | 1.0907 | 2.5045 | 28 |
| 33 | 1.0680 | 2.8488 | 1.0752 | 2.7225 | 1.0828 | 2.6076 | 1.0909 | 2.5028 | 27 |
| 34 | 1.0681 | 2.8466 | 1.0753 | 2.7205 | 1.0829 | 2.6058 | 1.0910 | 2.5012 | 26 |
| **35** | **1.0682** | **2.8444** | **1.0754** | **2.7185** | **1.0830** | **2.6040** | **1.0911** | **2.4995** | **25** |
| 36 | 1.0683 | 2.8422 | 1.0755 | 2.7165 | 1.0832 | 2.6022 | 1.0913 | 2.4978 | 24 |
| 37 | 1.0684 | 2.8400 | 1.0757 | 2.7145 | 1.0833 | 2.6003 | 1.0914 | 2.4962 | 23 |
| 38 | 1.0685 | 2.8378 | 1.0758 | 2.7125 | 1.0834 | 2.5985 | 1.0915 | 2.4945 | 22 |
| 39 | 1.0687 | 2.8356 | 1.0759 | 2.7105 | 1.0836 | 2.5967 | 1.0917 | 2.4928 | 21 |
| **40** | **1.0688** | **2.8334** | **1.0760** | **2.7085** | **1.0837** | **2.5949** | **1.0918** | **2.4912** | **20** |
| 41 | 1.0689 | 2.8312 | 1.0761 | 2.7065 | 1.0838 | 2.5931 | 1.0920 | 2.4895 | 19 |
| 42 | 1.0690 | 2.8291 | 1.0763 | 2.7045 | 1.0840 | 2.5913 | 1.0921 | 2.4879 | 18 |
| 43 | 1.0691 | 2.8269 | 1.0764 | 2.7026 | 1.0841 | 2.5895 | 1.0922 | 2.4862 | 17 |
| 44 | 1.0692 | 2.8247 | 1.0765 | 2.7006 | 1.0842 | 2.5877 | 1.0924 | 2.4846 | 16 |
| **45** | **1.0694** | **2.8225** | **1.0766** | **2.6986** | **1.0844** | **2.5859** | **1.0925** | **2.4829** | **15** |
| 46 | 1.0695 | 2.8204 | 1.0768 | 2.6967 | 1.0845 | 2.5841 | 1.0927 | 2.4813 | 14 |
| 47 | 1.0696 | 2.8182 | 1.0769 | 2.6947 | 1.0846 | 2.5823 | 1.0928 | 2.4797 | 13 |
| 48 | 1.0697 | 2.8161 | 1.0770 | 2.6927 | 1.0848 | 2.5805 | 1.0929 | 2.4780 | 12 |
| 49 | 1.0698 | 2.8139 | 1.0771 | 2.6908 | 1.0849 | 2.5788 | 1.0931 | 2.4764 | 11 |
| **50** | **1.0700** | **2.8117** | **1.0773** | **2.6888** | **1.0850** | **2.5770** | **1.0932** | **2.4748** | **10** |
| 51 | 1.0701 | 2.8096 | 1.0774 | 2.6869 | 1.0852 | 2.5752 | 1.0934 | 2.4731 | 9 |
| 52 | 1.0702 | 2.8075 | 1.0775 | 2.6849 | 1.0853 | 2.5734 | 1.0935 | 2.4715 | 8 |
| 53 | 1.0703 | 2.8053 | 1.0777 | 2.6830 | 1.0854 | 2.5716 | 1.0936 | 2.4699 | 7 |
| 54 | 1.0704 | 2.8032 | 1.0778 | 2.6811 | 1.0856 | 2.5699 | 1.0938 | 2.4683 | 6 |
| **55** | **1.0705** | **2.8010** | **1.0779** | **2.6791** | **1.0857** | **2.5681** | **1.0939** | **2.4667** | **5** |
| 56 | 1.0707 | 2.7989 | 1.0780 | 2.6772 | 1.0858 | 2.5663 | 1.0941 | 2.4650 | 4 |
| 57 | 1.0708 | 2.7968 | 1.0782 | 2.6752 | 1.0860 | 2.5646 | 1.0942 | 2.4634 | 3 |
| 58 | 1.0709 | 2.7947 | 1.0783 | 2.6733 | 1.0861 | 2.5628 | 1.0944 | 2.4618 | 2 |
| 59 | 1.0710 | 2.7925 | 1.0784 | 2.6714 | 1.0862 | 2.5611 | 1.0945 | 2.4602 | 1 |
| **60** | **1.0711** | **2.7904** | **1.0785** | **2.6695** | **1.0864** | **2.5593** | **1.0948** | **2.4586** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 69° | | 68° | | 67° | | 66° | | |

| ′ | 24° | | 25° | | 26° | | 27° | | ′ |
|---|---|---|---|---|---|---|---|---|---|
| | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | |
| **0** | **1.0946** | **2.4586** | **1.1034** | **2.3662** | **1.1126** | **2.2812** | **1.1223** | **2.2028** | **60** |
| 1 | 1.0948 | 2.4570 | 1.1035 | 2.3647 | 1.1128 | 2.2798 | 1.1225 | 2.2014 | 59 |
| 2 | 1.0949 | 2.4554 | 1.1037 | 2.3633 | 1.1129 | 2.2785 | 1.1227 | 2.2002 | 58 |
| 3 | 1.0951 | 2.4538 | 1.1038 | 2.3618 | 1.1131 | 2.2771 | 1.1228 | 2.1989 | 57 |
| 4 | 1.0952 | 2.4522 | 1.1040 | 2.3603 | 1.1132 | 2.2757 | 1.1230 | 2.1977 | 56 |
| **5** | **1.0953** | **2.4506** | **1.1041** | **2.3588** | **1.1134** | **2.2744** | **1.1232** | **2.1964** | **55** |
| 6 | 1.0955 | 2.4490 | 1.1043 | 2.3574 | 1.1136 | 2.2730 | 1.1233 | 2.1952 | 54 |
| 7 | 1.0956 | 2.4474 | 1.1044 | 2.3559 | 1.1137 | 2.2717 | 1.1235 | 2.1939 | 53 |
| 8 | 1.0958 | 2.4458 | 1.1046 | 2.3545 | 1.1139 | 2.2703 | 1.1237 | 2.1927 | 52 |
| 9 | 1.0959 | 2.4442 | 1.1047 | 2.3530 | 1.1140 | 2.2690 | 1.1238 | 2.1914 | 51 |
| **10** | **1.0961** | **2.4426** | **1.1049** | **2.3515** | **1.1142** | **2.2677** | **1.1240** | **2.1902** | **50** |
| 11 | 1.0962 | 2.4411 | 1.1050 | 2.3501 | 1.1143 | 2.2663 | 1.1242 | 2.1890 | 49 |
| 12 | 1.0963 | 2.4395 | 1.1052 | 2.3486 | 1.1145 | 2.2650 | 1.1243 | 2.1877 | 48 |
| 13 | 1.0965 | 2.4379 | 1.1053 | 2.3472 | 1.1147 | 2.2636 | 1.1245 | 2.1865 | 47 |
| 14 | 1.0966 | 2.4363 | 1.1055 | 2.3457 | 1.1148 | 2.2623 | 1.1247 | 2.1852 | 46 |
| **15** | **1.0968** | **2.4348** | **1.1056** | **2.3443** | **1.1150** | **2.2610** | **1.1248** | **2.1840** | **45** |
| 16 | 1.0969 | 2.4332 | 1.1058 | 2.3428 | 1.1151 | 2.2596 | 1.1250 | 2.1828 | 44 |
| 17 | 1.0971 | 2.4316 | 1.1059 | 2.3414 | 1.1153 | 2.2583 | 1.1252 | 2.1815 | 43 |
| 18 | 1.0972 | 2.4300 | 1.1061 | 2.3400 | 1.1155 | 2.2570 | 1.1253 | 2.1803 | 42 |
| 19 | 1.0974 | 2.4285 | 1.1062 | 2.3385 | 1.1156 | 2.2556 | 1.1255 | 2.1791 | 41 |
| **20** | **1.0975** | **2.4269** | **1.1064** | **2.3371** | **1.1158** | **2.2543** | **1.1257** | **2.1779** | **40** |
| 21 | 1.0976 | 2.4254 | 1.1066 | 2.3356 | 1.1159 | 2.2530 | 1.1259 | 2.1766 | 39 |
| 22 | 1.0978 | 2.4238 | 1.1067 | 2.3342 | 1.1161 | 2.2517 | 1.1260 | 2.1754 | 38 |
| 23 | 1.0979 | 2.4222 | 1.1069 | 2.3328 | 1.1163 | 2.2504 | 1.1262 | 2.1742 | 37 |
| 24 | 1.0981 | 2.4207 | 1.1070 | 2.3314 | 1.1164 | 2.2490 | 1.1264 | 2.1730 | 36 |
| **25** | **1.0982** | **2.4191** | **1.1072** | **2.3299** | **1.1166** | **2.2477** | **1.1265** | **2.1717** | **35** |
| 26 | 1.0984 | 2.4176 | 1.1073 | 2.3285 | 1.1167 | 2.2464 | 1.1267 | 2.1705 | 34 |
| 27 | 1.0985 | 2.4160 | 1.1075 | 2.3271 | 1.1169 | 2.2451 | 1.1269 | 2.1693 | 33 |
| 28 | 1.0987 | 2.4145 | 1.1076 | 2.3257 | 1.1171 | 2.2438 | 1.1270 | 2.1681 | 32 |
| 29 | 1.0988 | 2.4130 | 1.1078 | 2.3242 | 1.1172 | 2.2425 | 1.1272 | 2.1669 | 31 |
| **30** | **1.0989** | **2.4114** | **1.1079** | **2.3228** | **1.1174** | **2.2412** | **1.1274** | **2.1657** | **30** |
| 31 | 1.0991 | 2.4099 | 1.1081 | 2.3214 | 1.1176 | 2.2399 | 1.1276 | 2.1645 | 29 |
| 32 | 1.0992 | 2.4083 | 1.1082 | 2.3200 | 1.1177 | 2.2385 | 1.1277 | 2.1633 | 28 |
| 33 | 1.0994 | 2.4068 | 1.1084 | 2.3186 | 1.1179 | 2.2372 | 1.1279 | 2.1621 | 27 |
| 34 | 1.0995 | 2.4053 | 1.1085 | 2.3172 | 1.1181 | 2.2359 | 1.1281 | 2.1609 | 26 |
| **35** | **1.0997** | **2.4038** | **1.1087** | **2.3158** | **1.1182** | **2.2346** | **1.1282** | **2.1596** | **25** |
| 36 | 1.0998 | 2.4022 | 1.1089 | 2.3144 | 1.1184 | 2.2333 | 1.1284 | 2.1584 | 24 |
| 37 | 1.1000 | 2.4007 | 1.1090 | 2.3130 | 1.1185 | 2.2320 | 1.1286 | 2.1572 | 23 |
| 38 | 1.1001 | 2.3992 | 1.1092 | 2.3115 | 1.1187 | 2.2308 | 1.1288 | 2.1560 | 22 |
| 39 | 1.1003 | 2.3977 | 1.1093 | 2.3101 | 1.1189 | 2.2295 | 1.1289 | 2.1548 | 21 |
| **40** | **1.1004** | **2.3961** | **1.1095** | **2.3087** | **1.1190** | **2.2282** | **1.1291** | **2.1537** | **20** |
| 41 | 1.1005 | 2.3946 | 1.1096 | 2.3074 | 1.1192 | 2.2269 | 1.1293 | 2.1525 | 19 |
| 42 | 1.1007 | 2.3931 | 1.1098 | 2.3060 | 1.1194 | 2.2256 | 1.1294 | 2.1513 | 18 |
| 43 | 1.1009 | 2.3916 | 1.1099 | 2.3046 | 1.1195 | 2.2243 | 1.1296 | 2.1501 | 17 |
| 44 | 1.1010 | 2.3901 | 1.1101 | 2.3032 | 1.1197 | 2.2230 | 1.1298 | 2.1489 | 16 |
| **45** | **1.1011** | **2.3886** | **1.1102** | **2.3018** | **1.1198** | **2.2217** | **1.1300** | **2.1477** | **15** |
| 46 | 1.1013 | 2.3871 | 1.1104 | 2.3004 | 1.1200 | 2.2205 | 1.1301 | 2.1465 | 14 |
| 47 | 1.1014 | 2.3856 | 1.1106 | 2.2990 | 1.1202 | 2.2192 | 1.1303 | 2.1453 | 13 |
| 48 | 1.1016 | 2.3841 | 1.1107 | 2.2976 | 1.1203 | 2.2179 | 1.1305 | 2.1441 | 12 |
| 49 | 1.1017 | 2.3826 | 1.1109 | 2.2962 | 1.1205 | 2.2166 | 1.1306 | 2.1430 | 11 |
| **50** | **1.1019** | **2.3811** | **1.1110** | **2.2949** | **1.1207** | **2.2153** | **1.1308** | **2.1418** | **10** |
| 51 | 1.1020 | 2.3796 | 1.1112 | 2.2935 | 1.1208 | 2.2141 | 1.1310 | 2.1406 | 9 |
| 52 | 1.1022 | 2.3781 | 1.1113 | 2.2921 | 1.1210 | 2.2128 | 1.1312 | 2.1394 | 8 |
| 53 | 1.1023 | 2.3766 | 1.1115 | 2.2907 | 1.1212 | 2.2115 | 1.1313 | 2.1382 | 7 |
| 54 | 1.1025 | 2.3751 | 1.1117 | 2.2894 | 1.1213 | 2.2103 | 1.1315 | 2.1371 | 6 |
| **55** | **1.1026** | **2.3736** | **1.1118** | **2.2880** | **1.1215** | **2.2090** | **1.1317** | **2.1359** | **5** |
| 56 | 1.1028 | 2.3721 | 1.1120 | 2.2866 | 1.1217 | 2.2077 | 1.1319 | 2.1347 | 4 |
| 57 | 1.1029 | 2.3706 | 1.1121 | 2.2853 | 1.1218 | 2.2065 | 1.1320 | 2.1336 | 3 |
| 58 | 1.1031 | 2.3692 | 1.1123 | 2.2839 | 1.1220 | 2.2052 | 1.1322 | 2.1324 | 2 |
| 59 | 1.1032 | 2.3677 | 1 1124 | 2.2825 | 1.1222 | 2.2039 | 1.1324 | 2.1312 | 1 |
| **60** | **1.1034** | **2.3662** | **1.1126** | **2.2812** | **1.1223** | **2.2028** | **1.1326** | **2.1301** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 65° | | 64° | | 63° | | 62° | | |

| | 28° | | 29° | | 30° | | 31° | | |
|---|---|---|---|---|---|---|---|---|---|
| ′ | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | ′ |
| **0** | **1.1326** | **2.1301** | **1.1433** | **2.0627** | **1.1547** | **2.0000** | **1.1666** | **1.9416** | **60** |
| 1 | 1.1327 | 2.1289 | 1.1435 | 2.0616 | 1.1549 | 1.9990 | 1.1668 | 1.9408 | 59 |
| 2 | 1.1329 | 2.1277 | 1.1437 | 2.0605 | 1.1551 | 1.9980 | 1.1670 | 1.9397 | 58 |
| 3 | 1.1331 | 2.1266 | 1.1439 | 2.0594 | 1.1553 | 1.9970 | 1.1672 | 1.9388 | 57 |
| 4 | 1.1333 | 2.1254 | 1.1442 | 2.0583 | 1.1555 | 1.9960 | 1.1675 | 1.9379 | 56 |
| **5** | **1.1334** | **2.1242** | **1.1443** | **2.0573** | **1.1557** | **1.9950** | **1.1677** | **1.9369** | **55** |
| 6 | 1.1336 | 2.1231 | 1.1445 | 2.0562 | 1.1559 | 1.9940 | 1.1679 | 1.9360 | 54 |
| 7 | 1.1338 | 2.1219 | 1.1446 | 2.0551 | 1.1561 | 1.9930 | 1.1681 | 1.9350 | 53 |
| 8 | 1.1340 | 2.1208 | 1.1448 | 2.0540 | 1.1563 | 1.9920 | 1.1683 | 1.9341 | 52 |
| 9 | 1.1342 | 2.1196 | 1.1450 | 2.0530 | 1.1565 | 1.9910 | 1.1685 | 1.9332 | 51 |
| **10** | **1.1343** | **2.1185** | **1.1452** | **2.0519** | **1.1566** | **1.9900** | **1.1687** | **1.9323** | **50** |
| 11 | 1.1345 | 2.1173 | 1.1454 | 2.0508 | 1.1568 | 1.9890 | 1.1689 | 1.9313 | 49 |
| 12 | 1.1347 | 2.1162 | 1.1456 | 2.0498 | 1.1570 | 1.9880 | 1.1691 | 1.9304 | 48 |
| 13 | 1.1349 | 2.1150 | 1.1458 | 2.0487 | 1.1572 | 1.9870 | 1.1693 | 1.9295 | 47 |
| 14 | 1.1350 | 2.1139 | 1.1459 | 2.0476 | 1.1574 | 1.9860 | 1.1695 | 1.9285 | 46 |
| **15** | **1.1352** | **2.1127** | **1.1461** | **2.0466** | **1.1576** | **1.9850** | **1.1697** | **1.9276** | **45** |
| 16 | 1.1354 | 2.1116 | 1.1463 | 2.0455 | 1.1578 | 1.9840 | 1.1699 | 1.9267 | 44 |
| 17 | 1.1356 | 2.1105 | 1.1465 | 2.0445 | 1.1580 | 1.9830 | 1.1701 | 1.9258 | 43 |
| 18 | 1.1357 | 2.1093 | 1.1467 | 2.0434 | 1.1582 | 1.9821 | 1.1703 | 1.9249 | 42 |
| 19 | 1.1359 | 2.1082 | 1.1469 | 2.0423 | 1.1584 | 1.9811 | 1.1705 | 1.9239 | 41 |
| **20** | **1.1361** | **2.1070** | **1.1471** | **2.0413** | **1.1586** | **1.9801** | **1.1707** | **1.9230** | **40** |
| 21 | 1.1363 | 2.1059 | 1.1473 | 2.0402 | 1.1588 | 1.9791 | 1.1710 | 1.9221 | 39 |
| 22 | 1.1365 | 2.1048 | 1.1474 | 2.0392 | 1.1590 | 1.9781 | 1.1712 | 1.9212 | 38 |
| 23 | 1.1366 | 2.1036 | 1.1476 | 2.0381 | 1.1592 | 1.9771 | 1.1714 | 1.9203 | 37 |
| 24 | 1.1368 | 2.1025 | 1.1478 | 2.0371 | 1.1594 | 1.9762 | 1.1716 | 1.9193 | 36 |
| **25** | **1.1370** | **2.1014** | **1.1480** | **2.0360** | **1.1596** | **1.9752** | **1.1718** | **1.9184** | **35** |
| 26 | 1.1372 | 2.1002 | 1.1482 | 2.0350 | 1.1598 | 1.9742 | 1.1720 | 1.9175 | 34 |
| 27 | 1.1374 | 2.0991 | 1.1484 | 2.0339 | 1.1600 | 1.9732 | 1.1722 | 1.9166 | 33 |
| 28 | 1.1375 | 2.0980 | 1.1486 | 2.0329 | 1.1602 | 1.9722 | 1.1724 | 1.9157 | 32 |
| 29 | 1.1377 | 2.0969 | 1.1488 | 2.0318 | 1.1604 | 1.9713 | 1.1726 | 1.9148 | 31 |
| **30** | **1.1379** | **2.0957** | **1.1490** | **2.0308** | **1.1606** | **1.9703** | **1.1728** | **1.9139** | **30** |
| 31 | 1.1381 | 2.0946 | 1.1491 | 2.0297 | 1.1608 | 1.9693 | 1.1730 | 1.9130 | 29 |
| 32 | 1.1383 | 2.0935 | 1.1493 | 2.0287 | 1.1610 | 1.9683 | 1.1732 | 1.9121 | 28 |
| 33 | 1.1384 | 2.0924 | 1.1495 | 2.0276 | 1.1612 | 1.9674 | 1.1735 | 1.9112 | 27 |
| 34 | 1.1386 | 2.0913 | 1.1497 | 2.0266 | 1.1614 | 1.9664 | 1.1737 | 1.9103 | 26 |
| **35** | **1.1388** | **2.0901** | **1.1499** | **2.0256** | **1.1616** | **1.9654** | **1.1739** | **1.9094** | **25** |
| 36 | 1.1390 | 2.0890 | 1.1501 | 2.0245 | 1.1618 | 1.9645 | 1.1741 | 1.9084 | 24 |
| 37 | 1.1392 | 2.0879 | 1.1503 | 2.0235 | 1.1620 | 1.9635 | 1.1743 | 1.9075 | 23 |
| 38 | 1.1393 | 2.0868 | 1.1505 | 2.0225 | 1.1622 | 1.9625 | 1.1745 | 1.9066 | 22 |
| 39 | 1.1395 | 2.0857 | 1.1507 | 2.0214 | 1.1624 | 1.9616 | 1.1747 | 1.9057 | 21 |
| **40** | **1.1397** | **2.0846** | **1.1509** | **2.0204** | **1.1626** | **1.9606** | **1.1749** | **1.9049** | **20** |
| 41 | 1.1399 | 2.0835 | 1.1510 | 2.0194 | 1.1628 | 1.9597 | 1.1751 | 1.9039 | 19 |
| 42 | 1.1401 | 2.0824 | 1.1512 | 2.0183 | 1.1630 | 1.9587 | 1.1753 | 1.9031 | 18 |
| 43 | 1.1402 | 2.0813 | 1.1514 | 2.0173 | 1.1632 | 1.9577 | 1.1756 | 1.9022 | 17 |
| 44 | 1.1404 | 2.0802 | 1.1516 | 2.0163 | 1.1634 | 1.9568 | 1.1758 | 1.9013 | 16 |
| **45** | **1.1406** | **2.0790** | **1.1518** | **2.0152** | **1.1636** | **1.9558** | **1.1760** | **1.9004** | **15** |
| 46 | 1.1408 | 2.0779 | 1.1520 | 2.0142 | 1.1638 | 1.9549 | 1.1762 | 1.8995 | 14 |
| 47 | 1.1410 | 2.0768 | 1.1522 | 2.0132 | 1.1640 | 1.9539 | 1.1764 | 1.8986 | 13 |
| 48 | 1.1412 | 2.0757 | 1.1524 | 2.0122 | 1.1642 | 1.9530 | 1.1766 | 1.8977 | 12 |
| 49 | 1.1413 | 2.0747 | 1.1526 | 2.0112 | 1.1644 | 1.9520 | 1.1768 | 1.8968 | 11 |
| **50** | **1.1415** | **2.0736** | **1.1528** | **2.0101** | **1.1646** | **1.9511** | **1.1770** | **1.8959** | **10** |
| 51 | 1.1417 | 2.0725 | 1.1530 | 2.0091 | 1.1648 | 1.9501 | 1.1773 | 1.8950 | 9 |
| 52 | 1.1419 | 2.0714 | 1.1532 | 2.0081 | 1.1650 | 1.9492 | 1.1775 | 1.8941 | 8 |
| 53 | 1.1421 | 2.0703 | 1.1533 | 2.0071 | 1.1652 | 1.9482 | 1.1777 | 1.8933 | 7 |
| 54 | 1.1423 | 2.0692 | 1.1535 | 2.0061 | 1.1654 | 1.9473 | 1.1779 | 1.8924 | 6 |
| **55** | **1.1424** | **2.0681** | **1.1537** | **2.0051** | **1.1656** | **1.9463** | **1.1781** | **1.8915** | **5** |
| 56 | 1.1426 | 2.0670 | 1.1539 | 2.0040 | 1.1658 | 1.9454 | 1.1783 | 1.8906 | 4 |
| 57 | 1.1428 | 2.0659 | 1.1541 | 2.0030 | 1.1660 | 1.9444 | 1.1785 | 1.8897 | 3 |
| 58 | 1.1430 | 2.0648 | 1.1543 | 2.0020 | 1.1662 | 1.9435 | 1.1787 | 1.8888 | 2 |
| 59 | 1.1432 | 2.0637 | 1.1545 | 2.0010 | 1.1664 | 1.9425 | 1.1790 | 1.8880 | 1 |
| **60** | **1.1434** | **2.0627** | **1.1547** | **2.0000** | **1.1666** | **1.9416** | **1.1792** | **1.8871** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 61° | | 60° | | 59° | | 58° | | |

| | 32° | | 33° | | 34° | | 35° | | |
|---|---|---|---|---|---|---|---|---|---|
| ′ | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | ′ |
| **0** | **1.1792** | **1.8871** | **1.1924** | **1.8361** | **1.2062** | **1.7883** | **1.2208** | **1.7434** | **60** |
| 1 | 1.1794 | 1.8862 | 1.1926 | 1.8353 | 1.2064 | 1.7875 | 1.2210 | 1.7427 | 59 |
| 2 | 1.1796 | 1.8853 | 1.1928 | 1.8344 | 1.2067 | 1.7868 | 1.2213 | 1.7420 | 58 |
| 3 | 1.1798 | 1.8844 | 1.1930 | 1.8336 | 1.2069 | 1.7860 | 1.2215 | 1.7413 | 57 |
| 4 | 1.1800 | 1.8836 | 1.1933 | 1.8328 | 1.2072 | 1.7852 | 1.2218 | 1.7406 | 56 |
| **5** | **1.1803** | **1.8827** | **1.1935** | **1.8320** | **1.2074** | **1.7844** | **1.2220** | **1.7398** | **55** |
| 6 | 1.1805 | 1.8818 | 1.1937 | 1.8312 | 1.2076 | 1.7837 | 1.2223 | 1.7391 | 54 |
| 7 | 1.1807 | 1.8809 | 1.1939 | 1.8303 | 1.2079 | 1.7829 | 1.2225 | 1.7384 | 53 |
| 8 | 1.1809 | 1.8801 | 1.1942 | 1.8295 | 1.2081 | 1.7821 | 1.2228 | 1.7377 | 52 |
| 9 | 1.1811 | 1.8792 | 1.1944 | 1.8287 | 1.2084 | 1.7814 | 1.2230 | 1.7370 | 51 |
| **10** | **1.1813** | **1.8783** | **1.1946** | **1.8279** | **1.2086** | **1.7806** | **1.2233** | **1.7362** | **50** |
| 11 | 1.1815 | 1.8775 | 1.1948 | 1.8271 | 1.2088 | 1 7799 | 1.2235 | 1.7355 | 49 |
| 12 | 1.1818 | 1.8766 | 1.1951 | 1.8263 | 1.2091 | 1.7791 | 1.2238 | 1 7348 | 48 |
| 13 | 1.1820 | 1.8757 | 1.1953 | 1.8255 | 1.2093 | 1.7783 | 1.2240 | 1.7341 | 47 |
| 14 | 1.1822 | 1.8749 | 1.1955 | 1.8246 | 1.2096 | 1.7776 | 1.2243 | 1.7334 | 46 |
| **15** | **1.1824** | **1.8740** | **1.1958** | **1.8238** | **1.2098** | **1.7768** | **1.2245** | **1.7327** | **45** |
| 16 | 1.1826 | 1.8731 | 1.1960 | 1.8230 | 1.2100 | 1.7761 | 1.2248 | 1.7320 | 44 |
| 17 | 1.1828 | 1.8723 | 1.1962 | 1.8222 | 1.2103 | 1.7753 | 1.2250 | 1.7312 | 43 |
| 18 | 1.1831 | 1.8714 | 1.1964 | 1.8214 | 1.2105 | 1.7745 | 1.2253 | 1.7305 | 42 |
| 19 | 1.1833 | 1.8706 | 1.1967 | 1.8206 | 1.2107 | 1.7738 | 1.2255 | 1.7298 | 41 |
| **20** | **1.1835** | **1.8697** | **1.1969** | **1.8198** | **1.2110** | **1.7730** | **1.2258** | **1.7291** | **40** |
| 21 | 1.1837 | 1.8688 | 1.1971 | 1.8190 | 1.2112 | 1.7723 | 1.2260 | 1.7284 | 39 |
| 22 | 1.1839 | 1.8680 | 1.1974 | 1.8182 | 1.2115 | 1.7715 | 1.2263 | 1.7277 | 38 |
| 23 | 1.1842 | 1.8671 | 1.1976 | 1.8174 | 1.2117 | 1.7708 | 1.2265 | 1.7270 | 37 |
| 24 | 1.1844 | 1.8663 | 1.1978 | 1.8166 | 1.2120 | 1.7700 | 1.2268 | 1.7263 | 36 |
| **25** | **1.1846** | **1.8654** | **1.1981** | **1.8158** | **1.2122** | **1.7693** | **1.2271** | **1.7256** | **35** |
| 26 | 1.1848 | 1.8646 | 1.1983 | 1.8150 | 1.2124 | 1.7685 | 1.2273 | 1.7249 | 34 |
| 27 | 1.1850 | 1.8637 | 1.1985 | 1.8142 | 1.2127 | 1.7678 | 1.2276 | 1.7242 | 33 |
| 28 | 1.1852 | 1.8629 | 1.1987 | 1.8134 | 1.2129 | 1.7670 | 1.2278 | 1 7235 | 32 |
| 29 | 1.1855 | 1.8620 | 1.1990 | 1.8126 | 1.2132 | 1.7663 | 1.2281 | 1.7228 | 31 |
| **30** | **1.1857** | **1.8612** | **1.1992** | **1.8118** | **1.2134** | **1.7655** | **1.2283** | **1.7221** | **30** |
| 31 | 1.1859 | 1.8603 | 1.1994 | 1.8110 | 1.2136 | 1.7648 | 1.2286 | 1.7213 | 29 |
| 32 | 1.1861 | 1.8595 | 1.1997 | 1.8102 | 1 2139 | 1.7640 | 1.2288 | 1.7206 | 28 |
| 33 | 1.1863 | 1.8586 | 1.1999 | 1.8094 | 1.2141 | 1.7633 | 1.2291 | 1.7199 | 27 |
| 34 | 1.1866 | 1.8578 | 1.2001 | 1.8086 | 1.2144 | 1.7625 | 1.2293 | 1.7192 | 26 |
| **35** | **1.1868** | **1.8569** | **1.2004** | **1.8078** | **1.2146** | **1.7618** | **1.2296** | **1.7185** | **25** |
| 36 | 1.1870 | 1.8561 | 1.2006 | 1.8070 | 1.2149 | 1.7610 | 1.2299 | 1.7178 | 24 |
| 37 | 1.1872 | 1.8552 | 1.2008 | 1.8062 | 1.2151 | 1.7603 | 1.2301 | 1.7172 | 23 |
| 38 | 1.1875 | 1.8544 | 1.2011 | 1.8055 | 1.2154 | 1.7596 | 1.2304 | 1.7165 | 22 |
| 39 | 1.1877 | 1.8535 | 1.2013 | 1.8047 | 1.2156 | 1.7588 | 1.2306 | 1.7158 | 21 |
| **40** | **1.1879** | **1.8527** | **1.2015** | **1.8039** | **1.2158** | **1.7581** | **1.2309** | **1.7151** | **20** |
| 41 | 1.1881 | 1.8519 | 1.2018 | 1.8031 | 1.2161 | 1.7573 | 1.2311 | 1.7144 | 19 |
| 42 | 1.1883 | 1.8510 | 1.2020 | 1.8023 | 1.2163 | 1.7566 | 1.2314 | 1.7137 | 18 |
| 43 | 1.1886 | 1.8502 | 1.2022 | 1.8015 | 1.2166 | 1.7559 | 1.2317 | 1.7130 | 17 |
| 44 | 1.1888 | 1.8493 | 1.2025 | 1.8007 | 1.2168 | 1.7551 | 1.2319 | 1.7123 | 16 |
| **45** | **1.1890** | **1.8485** | **1.2027** | **1.8000** | **1.2171** | **1.7544** | **1.2322** | **1.7116** | **15** |
| 46 | 1.1892 | 1.8477 | 1.2029 | 1.7992 | 1.2173 | 1.7537 | 1.2324 | 1.7109 | 14 |
| 47 | 1.1894 | 1.8468 | 1.2032 | 1.7984 | 1.2176 | 1.7529 | 1.2327 | 1.7102 | 13 |
| 48 | 1.1897 | 1.8460 | 1.2034 | 1.7976 | 1.2178 | 1.7522 | 1.2329 | 1.7095 | 12 |
| 49 | 1.1899 | 1.8452 | 1.2036 | 1.7968 | 1.2181 | 1.7515 | 1.2332 | 1.7088 | 11 |
| **50** | **1.1901** | **1.8443** | **1.2039** | **1.7960** | **1.2183** | **1.7507** | **1.2335** | **1.7081** | **10** |
| 51 | 1.1903 | 1.8435 | 1.2041 | 1.7953 | 1.2185 | 1.7500 | 1.2337 | 1.7075 | 9 |
| 52 | 1.1906 | 1.8427 | 1.2043 | 1.7945 | 1.2188 | 1.7493 | 1.2340 | 1.7068 | 8 |
| 53 | 1.1908 | 1.8419 | 1.2046 | 1.7937 | 1.2190 | 1.7485 | 1.2342 | 1.7061 | 7 |
| 54 | 1.1910 | 1.8410 | 1.2048 | 1.7929 | 1.2193 | 1.7478 | 1.2345 | 1.7054 | 6 |
| **55** | **1.1912** | **1.8402** | **1.2050** | **1.7922** | **1.2195** | **1.7471** | **1.2348** | **1.7047** | **5** |
| 56 | 1.1915 | 1.8394 | 1.2053 | 1.7914 | 1.2198 | 1.7463 | 1.2350 | 1.7040 | 4 |
| 57 | 1.1917 | 1.8385 | 1.2055 | 1.7906 | 1.2200 | 1.7456 | 1.2353 | 1.7033 | 3 |
| 58 | 1.1919 | 1.8377 | 1.2057 | 1 7898 | 1.2203 | 1.7449 | 1.2355 | 1.7027 | 2 |
| 59 | 1.1921 | 1.8369 | 1.2060 | 1.7891 | 1.2205 | 1.7442 | 1.2358 | 1.7020 | 1 |
| **60** | **1.1924** | **1.8361** | **1.2062** | **1.7883** | **1.2208** | **1.7434** | **1.2361** | **1.7013** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 57° | | 56° | | 55° | | 54° | | |

| | 36° | | 37° | | 38° | | 39° | | |
|---|---|---|---|---|---|---|---|---|---|
| ′ | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | ′ |
| **0** | **1.2361** | **1.7013** | **1.2521** | **1.6616** | **1.2690** | **1.6243** | **1.2868** | **1.5890** | **60** |
| 1 | 1.2363 | 1.7006 | 1.2524 | 1.6610 | 1.2693 | 1.6237 | 1.2871 | 1.5884 | 59 |
| 2 | 1.2366 | 1.6999 | 1.2527 | 1.6604 | 1.2696 | 1.6231 | 1.2874 | 1.5879 | 58 |
| 3 | 1.2369 | 1.6993 | 1.2530 | 1.6597 | 1.2699 | 1.6225 | 1.2877 | 1.5873 | 57 |
| 4 | 1.2371 | 1.6986 | 1.2532 | 1.6591 | 1.2702 | 1.6219 | 1.2880 | 1.5867 | 56 |
| **5** | **1.2374** | **1.6979** | **1.2535** | **1.6584** | **1.2705** | **1.6213** | **1.2883** | **1.5862** | **55** |
| 6 | 1.2376 | 1.6972 | 1.2538 | 1.6578 | 1.2707 | 1.6206 | 1.2886 | 1.5856 | 54 |
| 7 | 1.2379 | 1.6965 | 1.2541 | 1.6572 | 1.2710 | 1.6200 | 1.2889 | 1.5850 | 53 |
| 8 | 1.2382 | 1.6959 | 1.2543 | 1.6565 | 1.2713 | 1.6194 | 1.2892 | 1.5845 | 52 |
| 9 | 1.2384 | 1.6952 | 1.2546 | 1.6559 | 1.2716 | 1.6188 | 1.2895 | 1.5839 | 51 |
| **10** | **1.2387** | **1.6945** | **1.2549** | **1.6553** | **1.2719** | **1.6183** | **1.2898** | **1.5833** | **50** |
| 11 | 1.2390 | 1.6938 | 1.2552 | 1.6546 | 1.2722 | 1.6177 | 1.2901 | 1.5828 | 49 |
| 12 | 1.2392 | 1.6932 | 1.2554 | 1.6540 | 1.2725 | 1.6171 | 1.2904 | 1.5822 | 48 |
| 13 | 1.2395 | 1.6925 | 1.2557 | 1.6534 | 1.2728 | 1.6165 | 1.2907 | 1.5816 | 47 |
| 14 | 1.2397 | 1.6918 | 1.2560 | 1.6527 | 1.2731 | 1.6159 | 1.2910 | 1.5811 | 46 |
| **15** | **1.2400** | **1.6912** | **1.2563** | **1.6521** | **1.2734** | **1.6153** | **1.2913** | **1.5805** | **45** |
| 16 | 1.2403 | 1.6905 | 1.2566 | 1.6515 | 1.2737 | 1.6147 | 1.2916 | 1.5799 | 44 |
| 17 | 1.2405 | 1.6898 | 1.2568 | 1.6508 | 1.2740 | 1.6141 | 1.2919 | 1.5794 | 43 |
| 18 | 1.2408 | 1.6892 | 1.2571 | 1.6502 | 1.2742 | 1.6135 | 1.2923 | 1.5788 | 42 |
| 19 | 1.2411 | 1.6885 | 1.2574 | 1.6496 | 1.2745 | 1.6129 | 1.2926 | 1.5783 | 41 |
| **20** | **1.2413** | **1.6878** | **1.2577** | **1.6489** | **1.2748** | **1.6123** | **1.2929** | **1.5777** | **40** |
| 21 | 1.2416 | 1.6871 | 1.2579 | 1.6483 | 1.2751 | 1.6117 | 1.2932 | 1.5771 | 39 |
| 22 | 1.2419 | 1.6865 | 1.2582 | 1.6477 | 1.2754 | 1.6111 | 1.2935 | 1.5766 | 38 |
| 23 | 1.2421 | 1.6858 | 1.2585 | 1.6471 | 1.2757 | 1.6105 | 1.2938 | 1.5760 | 37 |
| 24 | 1.2424 | 1.6851 | 1.2588 | 1.6464 | 1.2760 | 1.6099 | 1.2941 | 1.5755 | 36 |
| **25** | **1.2427** | **1.6845** | **1.2591** | **1.6458** | **1.2763** | **1.6093** | **1.2944** | **1.5749** | **35** |
| 26 | 1.2429 | 1.6838 | 1.2593 | 1.6452 | 1.2766 | 1.6087 | 1.2947 | 1.5744 | 34 |
| 27 | 1.2432 | 1.6832 | 1.2596 | 1.6445 | 1.2769 | 1.6082 | 1.2950 | 1.5738 | 33 |
| 28 | 1.2435 | 1.6825 | 1.2599 | 1.6439 | 1.2772 | 1.6076 | 1.2953 | 1.5732 | 32 |
| 29 | 1.2437 | 1.6818 | 1.2602 | 1.6433 | 1.2775 | 1.6070 | 1.2957 | 1.5727 | 31 |
| **30** | **1.2440** | **1.6812** | **1.2605** | **1.6427** | **1.2778** | **1.6064** | **1.2960** | **1.5721** | **30** |
| 31 | 1.2443 | 1.6805 | 1.2608 | 1.6421 | 1.2781 | 1.6058 | 1.2963 | 1.5716 | 29 |
| 32 | 1.2445 | 1.6799 | 1.2610 | 1.6414 | 1.2784 | 1.6052 | 1.2966 | 1.5710 | 28 |
| 33 | 1.2448 | 1.6792 | 1.2613 | 1.6408 | 1.2787 | 1.6046 | 1.2969 | 1.5705 | 27 |
| 34 | 1.2451 | 1.6785 | 1.2616 | 1.6402 | 1.2790 | 1.6040 | 1.2972 | 1.5699 | 26 |
| **35** | **1.2453** | **1.6779** | **1.2619** | **1.6396** | **1.2793** | **1.6035** | **1.2975** | **1.5694** | **25** |
| 36 | 1.2456 | 1.6772 | 1.2622 | 1.6390 | 1.2796 | 1.6029 | 1.2978 | 1.5688 | 24 |
| 37 | 1.2459 | 1.6766 | 1.2624 | 1.6383 | 1.2798 | 1.6023 | 1.2981 | 1.5683 | 23 |
| 38 | 1.2462 | 1.6759 | 1.2627 | 1.6377 | 1.2802 | 1.6017 | 1.2985 | 1.5677 | 22 |
| 39 | 1.2464 | 1.6753 | 1.2630 | 1.6371 | 1.2804 | 1.6011 | 1.2988 | 1.5672 | 21 |
| **40** | **1.2467** | **1.6746** | **1.2633** | **1.6365** | **1.2807** | **1.6005** | **1.2991** | **1.5666** | **20** |
| 41 | 1.2470 | 1.6739 | 1.2636 | 1.6359 | 1.2810 | 1.6000 | 1.2994 | 1.5661 | 19 |
| 42 | 1.2472 | 1.6733 | 1.2639 | 1.6352 | 1.2813 | 1.5994 | 1.2997 | 1.5655 | 18 |
| 43 | 1.2475 | 1.6726 | 1.2641 | 1.6346 | 1.2816 | 1.5988 | 1.3000 | 1.5650 | 17 |
| 44 | 1.2478 | 1.6720 | 1.2644 | 1.6340 | 1.2819 | 1.5982 | 1.3003 | 1.5644 | 16 |
| **45** | **1.2480** | **1.6713** | **1.2647** | **1.6334** | **1.2822** | **1.5976** | **1.3007** | **1.5639** | **15** |
| 46 | 1.2483 | 1.6707 | 1.2650 | 1.6328 | 1.2825 | 1.5971 | 1.3010 | 1.5633 | 14 |
| 47 | 1.2486 | 1.6700 | 1.2653 | 1.6322 | 1.2828 | 1.5965 | 1.3013 | 1.5628 | 13 |
| 48 | 1.2489 | 1.6694 | 1.2656 | 1.6316 | 1.2831 | 1.5959 | 1.3016 | 1.5622 | 12 |
| 49 | 1.2491 | 1.6687 | 1.2659 | 1.6310 | 1.2834 | 1.5953 | 1.3019 | 1.5617 | 11 |
| **50** | **1.2494** | **1.6681** | **1.2661** | **1.6303** | **1.2837** | **1.5947** | **1.3022** | **1.5611** | **10** |
| 51 | 1.2497 | 1.6674 | 1.2664 | 1.6297 | 1.2840 | 1.5942 | 1.3025 | 1.5606 | 9 |
| 52 | 1.2499 | 1.6668 | 1.2667 | 1.6291 | 1.2843 | 1.5936 | 1.3029 | 1.5600 | 8 |
| 53 | 1.2502 | 1.6661 | 1.2670 | 1.6285 | 1.2846 | 1.5930 | 1.3032 | 1.5595 | 7 |
| 54 | 1.2505 | 1.6655 | 1.2673 | 1.6279 | 1.2849 | 1.5924 | 1.3035 | 1.5590 | 6 |
| **55** | **1.2508** | **1.6649** | **1.2676** | **1.6273** | **1.2852** | **1.5919** | **1.3038** | **1.5584** | **5** |
| 56 | 1.2510 | 1.6642 | 1.2679 | 1.6267 | 1.2855 | 1.5913 | 1.3041 | 1.5579 | 4 |
| 57 | 1.2513 | 1.6636 | 1.2682 | 1.6261 | 1.2859 | 1.5907 | 1.3045 | 1.5573 | 3 |
| 58 | 1.2516 | 1.6629 | 1.2684 | 1.6255 | 1.2862 | 1.5902 | 1.3048 | 1.5568 | 2 |
| 59 | 1.2519 | 1.6623 | 1.2687 | 1.6249 | 1.2865 | 1.5896 | 1.3051 | 1.5563 | 1 |
| **60** | **1.2521** | **1.6616** | **1.2690** | **1.6243** | **1.2868** | **1.5890** | **1.3054** | **1.5557** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 53° | | 52° | | 51° | | 50° | | |

| ′ | 40° | | 41° | | 42° | | 43° | | ′ |
|---|---|---|---|---|---|---|---|---|---|
| | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | |
| **0** | **1.3054** | **1.5557** | **1.3250** | **1.5242** | **1.3456** | **1.4945** | **1.3673** | **1.4663** | **60** |
| 1 | 1.3057 | 1.5552 | 1.3253 | 1.5237 | 1.3460 | 1.4940 | 1.3677 | 1.4658 | 59 |
| 2 | 1.3060 | 1.5546 | 1.3257 | 1.5232 | 1.3463 | 1.4935 | 1.3681 | 1.4654 | 58 |
| 3 | 1.3064 | 1.5541 | 1.3260 | 1.5227 | 1.3467 | 1.4930 | 1.3684 | 1.4649 | 57 |
| 4 | 1.3067 | 1.5536 | 1.3264 | 1.5222 | 1.3470 | 1.4925 | 1.3688 | 1.4645 | 56 |
| **5** | **1.3070** | **1.5530** | **1.3267** | **1.5217** | **1.3474** | **1.4921** | **1.3692** | **1.4640** | **55** |
| 6 | 1 3073 | 1.5525 | 1.3270 | 1.5212 | 1.3478 | 1.4916 | 1.3696 | 1.4635 | 54 |
| 7 | 1.3076 | 1.5520 | 1.3274 | 1.5207 | 1.3481 | 1.4911 | 1.3699 | 1.4631 | 53 |
| 8 | 1.3080 | 1.5514 | 1.3277 | 1.5202 | 1.3485 | 1.4906 | 1.3703 | 1.4626 | 52 |
| 9 | 1.3083 | 1.5509 | 1.3280 | 1.5197 | 1.3488 | 1.4901 | 1.3707 | 1.4622 | 51 |
| **10** | **1.3086** | **1.5504** | **1.3284** | **1.5192** | **1.3492** | **1.4897** | **1.3711** | **1.4617** | **50** |
| 11 | 1.3089 | 1.5498 | 1.3287 | 1.5187 | 1.3495 | 1.4892 | 1.3714 | 1.4613 | 49 |
| 12 | 1.3092 | 1.5493 | 1.3291 | 1.5182 | 1.3499 | 1.4887 | 1.3718 | 1.4608 | 48 |
| 13 | 1.3096 | 1.5488 | 1.3294 | 1.5177 | 1.3502 | 1.4882 | 1.3722 | 1.4604 | 47 |
| 14 | 1.3099 | 1.5482 | 1.3297 | 1.5172 | 1.3506 | 1.4878 | 1.3726 | 1.4599 | 46 |
| **15** | **1.3102** | **1.5477** | **1.3301** | **1.5167** | **1.3510** | **1.4873** | **1.3729** | **1.4595** | **45** |
| 16 | 1.3105 | 1.5472 | 1.3304 | 1.5162 | 1.3513 | 1.4868 | 1.3733 | 1.4590 | 44 |
| 17 | 1.3109 | 1.5466 | 1.3307 | 1.5156 | 1.3517 | 1.4863 | 1.3737 | 1.4586 | 43 |
| 18 | 1.3112 | 1.5461 | 1.3311 | 1.5151 | 1.3521 | 1.4859 | 1.3741 | 1.4581 | 42 |
| 19 | 1 3115 | 1.5456 | 1.3314 | 1.5146 | 1.3524 | 1.4854 | 1.3744 | 1.4577 | 41 |
| **20** | **1.3118** | **1.5450** | **1.3318** | **1.5141** | **1.3527** | **1.4849** | **1.3748** | **1.4572** | **40** |
| 21 | 1.3122 | 1.5445 | 1.3321 | 1.5136 | 1.3531 | 1.4844 | 1.3752 | 1.4568 | 39 |
| 22 | 1.3125 | 1.5440 | 1.3325 | 1.5131 | 1.3535 | 1.4840 | 1.3756 | 1.4563 | 38 |
| 23 | 1.3128 | 1.5434 | 1.3328 | 1.5126 | 1.3538 | 1.4835 | 1.3759 | 1.4559 | 37 |
| 24 | 1.3131 | 1.5429 | 1.3331 | 1.5121 | 1.3542 | 1.4830 | 1.3763 | 1.4554 | 36 |
| **25** | **1.3135** | **1.5424** | **1.3335** | **1.5116** | **1.3545** | **1.4825** | **1.3767** | **1.4550** | **35** |
| 26 | 1.3138 | 1.5419 | 1.3338 | 1.5111 | 1.3549 | 1.4821 | 1.3771 | 1.4545 | 34 |
| 27 | 1.3141 | 1.5413 | 1.3342 | 1.5107 | 1.3553 | 1.4816 | 1.3775 | 1.4541 | 33 |
| 28 | 1.3144 | 1.5408 | 1.3345 | 1.5102 | 1.3556 | 1.4811 | 1.3778 | 1.4536 | 32 |
| 29 | 1.3148 | 1.5403 | 1.3348 | 1.5097 | 1.3560 | 1.4807 | 1.3782 | 1.4532 | 31 |
| **30** | **1.3151** | **1.5398** | **1.3352** | **1.5092** | **1.3563** | **1.4802** | **1.3786** | **1.4527** | **30** |
| 31 | 1.3154 | 1.5392 | 1.3355 | 1.5087 | 1.3567 | 1.4797 | 1.3790 | 1.4523 | 29 |
| 32 | 1.3157 | 1.5387 | 1.3359 | 1.5082 | 1.3571 | 1.4792 | 1.3794 | 1.4518 | 28 |
| 33 | 1.3161 | 1.5382 | 1.3362 | 1.5077 | 1.3574 | 1.4788 | 1 3797 | 1.4514 | 27 |
| 34 | 1.3164 | 1.5377 | 1.3366 | 1.5072 | 1.3578 | 1.4783 | 1.3801 | 1.4510 | 26 |
| **35** | **1.3167** | **1.5372** | **1.3369** | **1.5067** | **1.3582** | **1.4778** | **1.3805** | **1.4505** | **25** |
| 36 | 1.3171 | 1.5366 | 1.3373 | 1.5062 | 1.3585 | 1.4774 | 1.3809 | 1.4501 | 24 |
| 37 | 1.3174 | 1.5361 | 1.3376 | 1.5057 | 1.3589 | 1.4769 | 1.3813 | 1.4496 | 23 |
| 38 | 1.3177 | 1.5356 | 1.3379 | 1.5052 | 1.3592 | 1.4764 | 1.3817 | 1.4492 | 22 |
| 39 | 1.3180 | 1.5351 | 1.3383 | 1.5047 | 1.3596 | 1.4760 | 1.3820 | 1.4487 | 21 |
| **40** | **1.3184** | **1.5345** | **1.3386** | **1.5042** | **1.3600** | **1.4755** | **1.3824** | **1.4483** | **20** |
| 41 | 1.3187 | 1.5340 | 1.3390 | 1.5037 | 1.3603 | 1.4750 | 1.3828 | 1.4479 | 19 |
| 42 | 1.3190 | 1.5335 | 1.3393 | 1.5032 | 1.3607 | 1.4746 | 1.3832 | 1.4474 | 18 |
| 43 | 1.3194 | 1.5330 | 1.3397 | 1.5027 | 1.3611 | 1.4741 | 1.3836 | 1.4470 | 17 |
| 44 | 1.3197 | 1.5325 | 1.3400 | 1.5023 | 1.3614 | 1.4736 | 1.3840 | 1.4465 | 16 |
| **45** | **1.3200** | **1.5320** | **1.3404** | **1.5018** | **1.3618** | **1.4732** | **1.3843** | **1.4461** | **15** |
| 46 | 1.3203 | 1.5314 | 1.3407 | 1.5013 | 1.3622 | 1.4727 | 1.3847 | 1.4457 | 14 |
| 47 | 1.3207 | 1.5309 | 1.3411 | 1.5008 | 1.3625 | 1.4723 | 1.3851 | 1.4452 | 13 |
| 48 | 1.3210 | 1.5304 | 1.3414 | 1.5003 | 1.3629 | 1.4718 | 1.3855 | 1.4448 | 12 |
| 49 | 1.3213 | 1.5299 | 1.3418 | 1.4998 | 1.3633 | 1.4713 | 1 3859 | 1.4443 | 11 |
| **50** | **1.3217** | **1.5294** | **1.3421** | **1.4993** | **1.3636** | **1.4709** | **1.3863** | **1.4439** | **10** |
| 51 | 1.3220 | 1.5289 | 1.3425 | 1.4988 | 1.3640 | 1.4704 | 1.3867 | 1 4435 | 9 |
| 52 | 1.3223 | 1.5283 | 1.3428 | 1.4984 | 1.3644 | 1.4699 | 1.3870 | 1.4430 | 8 |
| 53 | 1.3227 | 1.5278 | 1.3432 | 1.4979 | 1.3647 | 1.4695 | 1.3874 | 1.4426 | 7 |
| 54 | 1.3230 | 1.5273 | 1.3435 | 1.4974 | 1.3651 | 1.4690 | 1.3878 | 1.4422 | 6 |
| **55** | **1.3233** | **1.5268** | **1.3439** | **1.4969** | **1.3655** | **1.4686** | **1.3882** | **1.4417** | **5** |
| 56 | 1.3237 | 1.5263 | 1.3442 | 1.4964 | 1.3658 | 1.4681 | 1.3886 | 1.4413 | 4 |
| 57 | 1.3240 | 1.5258 | 1.3446 | 1.4959 | 1.3662 | 1.4677 | 1.3890 | 1.4409 | 3 |
| 58 | 1.3243 | 1.5253 | 1.3449 | 1.4954 | 1.3666 | 1.4672 | 1.3894 | 1.4404 | 2 |
| 59 | 1.3247 | 1.5248 | 1.3453 | 1.4950 | 1.3670 | 1.4667 | 1.3898 | 1.4400 | 1 |
| **60** | **1.3250** | **1.5243** | **1.3456** | **1.4945** | **1.3673** | **1.4663** | **1.3902** | **1.4396** | **0** |
| ′ | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | Co-s't | Secant | ′ |
| | 49° | | 48° | | 47° | | 46° | | |

| | 44° | | | | 44° | | | | 44° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Secant | Co-s't | ′ | ′ | Secant | Co-s't | ′ | ′ | Secant | Co-s't | ′ |
| **0** | **1.3902** | **1.4396** | **60** | **21** | **1.3984** | **1.4305** | **39** | **41** | **1.4065** | **1.4221** | **19** |
| 1 | 1.3906 | 1.4391 | 59 | 22 | 1.3988 | 1.4301 | 38 | 42 | 1.4069 | 1.4217 | 18 |
| 2 | 1.3909 | 1.4387 | 58 | 23 | 1.3992 | 1.4297 | 37 | 43 | 1.4073 | 1.4213 | 17 |
| 3 | 1.3913 | 1.4383 | 57 | 24 | 1.3996 | 1.4293 | 36 | 44 | 1 4077 | 1.4208 | 16 |
| 4 | 1.3917 | 1.4378 | 56 | 25 | 1.4000 | 1.4288 | 35 | 45 | 1.4081 | 1.4204 | 15 |
| **5** | **1.3921** | **1.4374** | **55** | **26** | **1.4004** | **1.4284** | **34** | **46** | **1.4085** | **1.4200** | **14** |
| 6 | 1 3925 | 1.4370 | 54 | 27 | 1.4008 | 1.4280 | 33 | 47 | 1.4089 | 1.4196 | 13 |
| 7 | 1.3929 | 1.4365 | 53 | 28 | 1.4012 | 1.4276 | 32 | 48 | 1 4093 | 1.4192 | 12 |
| 8 | 1.3933 | 1.4361 | 52 | 29 | 1.4016 | 1.4271 | 31 | 49 | 1.4097 | 1.4188 | 11 |
| 9 | 1.3937 | 1.4357 | 51 | 30 | 1.4020 | 1.4267 | 30 | 50 | 1.4101 | 1.4183 | 10 |
| **10** | **1.3941** | **1.4352** | **50** | **31** | **1.4024** | **1.4263** | **29** | **51** | **1.4105** | **1.4179** | **9** |
| 11 | 1.3945 | 1.4348 | 49 | 32 | 1.4028 | 1.4259 | 28 | 52 | 1.4109 | 1.4175 | 8 |
| 12 | 1.3949 | 1.4344 | 48 | 33 | 1.4032 | 1.4255 | 27 | 53 | 1.4113 | 1 4171 | 7 |
| 13 | 1.3953 | 1.4340 | 47 | 34 | 1.4036 | 1.4250 | 26 | 54 | 1.4117 | 1 4167 | 6 |
| 14 | 1.3957 | 1.4335 | 46 | 35 | 1.4040 | 1.4246 | 25 | 55 | 1.4122 | 1.4163 | 5 |
| **15** | **1.3961** | **1.4331** | **45** | **36** | **1.4044** | **1.4242** | **24** | **56** | **1.4126** | **1.4159** | **4** |
| 16 | 1.3965 | 1 4327 | 44 | 37 | 1.4048 | 1.4238 | 23 | 57 | 1.4130 | 1.4154 | 3 |
| 17 | 1.3969 | 1.4322 | 43 | 38 | 1.4052 | 1.4234 | 22 | 58 | 1.4134 | 1.4150 | 2 |
| 18 | 1.3972 | 1.4318 | 42 | 39 | 1.4057 | 1.4229 | 21 | 59 | 1.4138 | 1.4146 | 1 |
| 19 | 1.3976 | 1.4314 | 41 | 40 | 1.4061 | 1.4225 | 20 | 60 | 1.4142 | 1.4142 | 0 |
| **20** | **1.3980** | **1.4310** | **40** | | | | | | | | |
| ′ | Co-s't | Secant | ′ | ′ | Co-s't | Secant | ′ | ′ | Co-s't | Secant | ′ |
| | 45° | | | | 45° | | | | 45° | | |

NOTE.—In this and preceding trigonometrical tables for angles between 45° and 90° read from right-hand page to left-hand page and from bottom of page upward.

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **0** | **000.00** | **0000.00** | **0000** | **00000** | **0.0000** | **0.0000** | —— |
| 1 | 3.142 | 0.7854 | 1 | 1 | 1.0000 | 1.0000 | 1000.00 |
| 2 | 6.283 | 3.1416 | 4 | 8 | 1.4142 | 1.2599 | 500.000 |
| 3 | 9.425 | 7.0686 | 9 | 27 | 1.7321 | 1.4422 | 333.333 |
| 4 | 12.566 | 12.5664 | 16 | 64 | 2.0000 | 1.5874 | 250.000 |
| **5** | **15.708** | **19.6350** | **25** | **125** | **2.2361** | **1.7100** | **200.000** |
| 6 | 18.850 | 28.2743 | 36 | 216 | 2.4495 | 1.8171 | 166.667 |
| 7 | 21.991 | 38.4845 | 49 | 343 | 2.6458 | 1.9129 | 142.857 |
| 8 | 25.133 | 50.2655 | 64 | 512 | 2.8284 | 2.0000 | 125.000 |
| 9 | 28.274 | 63.6173 | 81 | 729 | 3.0000 | 2.0801 | 111.111 |
| **10** | **31.416** | **78.5398** | **100** | **1000** | **3.1623** | **2.1544** | **100.000** |
| 11 | 34.558 | 95.0332 | 121 | 1331 | 3.3166 | 2.2240 | 90.9091 |
| 12 | 37.699 | 113.097 | 144 | 1728 | 3.4641 | 2.2894 | 83.3333 |
| 13 | 40.841 | 132.732 | 169 | 2197 | 3.6056 | 2.3513 | 76.9231 |
| 14 | 43.982 | 153.938 | 196 | 2744 | 3.7417 | 2.4101 | 71.4286 |
| **15** | **47.124** | **176.715** | **225** | **3375** | **3.8730** | **2.4662** | **66.6667** |
| 16 | 50.265 | 201.062 | 256 | 4096 | 4.0000 | 2.5198 | 62.5000 |
| 17 | 53.407 | 226.980 | 289 | 4913 | 4.1231 | 2.5713 | 58.8235 |
| 18 | 56.549 | 254.469 | 324 | 5832 | 4.2426 | 2.6207 | 55.5556 |
| 19 | 59.690 | 283.529 | 361 | 6859 | 4.3589 | 2.6684 | 52.6316 |
| **20** | **62.832** | **314.159** | **400** | **8000** | **4.4721** | **2.7144** | **50.0000** |
| 21 | 65.973 | 346.361 | 441 | 9261 | 4.5826 | 2.7589 | 47.6190 |
| 22 | 69.115 | 380.133 | 484 | 10648 | 4.6904 | 2.8020 | 45.4545 |
| 23 | 72.257 | 415.476 | 529 | 12167 | 4.7958 | 2.8439 | 43.4783 |
| 24 | 75.398 | 452.389 | 576 | 13824 | 4.8990 | 2.8845 | 41.6667 |
| **25** | **78.540** | **490.874** | **625** | **15625** | **5.0000** | **2.9240** | **40.0000** |
| 26 | 81.681 | 530.929 | 676 | 17576 | 5.0990 | 2.9625 | 38.4615 |
| 27 | 84.823 | 572.555 | 729 | 19683 | 5.1962 | 3.0000 | 37.0370 |
| 28 | 87.965 | 615.752 | 784 | 21952 | 5.2915 | 3.0366 | 35.7143 |
| 29 | 91.106 | 660.520 | 841 | 24389 | 5.3852 | 3.0723 | 34.4828 |
| **30** | **94.248** | **706.858** | **900** | **27000** | **5.4772** | **3.1072** | **33.3333** |
| 31 | 97.389 | 754.768 | 961 | 29791 | 5.5678 | 3.1414 | 32.2581 |
| 32 | 100.531 | 804.248 | 1024 | 32768 | 5.6569 | 3.1748 | 31.2500 |
| 33 | 103.673 | 855.299 | 1089 | 35937 | 5.7446 | 3.2075 | 30.3030 |
| 34 | 106.814 | 907.920 | 1156 | 39304 | 5.8310 | 3.2396 | 29.4118 |
| **35** | **109.956** | **962.113** | **1225** | **42875** | **5.9161** | **3.2711** | **28.5714** |
| 36 | 113.097 | 1017.88 | 1296 | 46656 | 6.0000 | 3.3019 | 27.7778 |
| 37 | 116.239 | 1075.21 | 1369 | 50653 | 6.0828 | 3.3322 | 27.0270 |
| 38 | 119.381 | 1134.11 | 1444 | 54872 | 6.1644 | 3.3620 | 26.3158 |
| 39 | 122.522 | 1194.59 | 1521 | 59319 | 6.2450 | 3.3912 | 25.6410 |
| **40** | **125.66** | **1256.64** | **1600** | **64000** | **6.3246** | **3.4200** | **25.0000** |
| 41 | 128.81 | 1320.25 | 1681 | 68921 | 6.4031 | 3.4482 | 24.3902 |
| 42 | 131.95 | 1385.44 | 1764 | 74088 | 6.4807 | 3.4760 | 23.8095 |
| 43 | 135.09 | 1452.20 | 1849 | 79507 | 6.5574 | 3.5034 | 23.2558 |
| 44 | 138.23 | 1520.53 | 1936 | 85184 | 6.6332 | 3.5303 | 22.7273 |
| **45** | **141.37** | **1590.43** | **2025** | **91125** | **6.7082** | **3.5569** | **22.2222** |
| 46 | 144.51 | 1661.90 | 2116 | 97336 | 6.7823 | 3.5830 | 21.7391 |
| 47 | 147.65 | 1734.94 | 2209 | 103823 | 6.8557 | 3.6088 | 21.2766 |
| 48 | 150.80 | 1809.56 | 2304 | 110592 | 6.9282 | 3.6342 | 20.8333 |
| 49 | 153.94 | 1885.74 | 2401 | 117649 | 7.0000 | 3.6593 | 20.4082 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **50** | **157.08** | **1963.50** | **2500** | **125000** | **7.0711** | **3.6840** | **20.0000** |
| 51 | 160.22 | 2042.82 | 2601 | 132651 | 7.1414 | 3.7084 | 19.6078 |
| 52 | 163.36 | 2123.72 | 2704 | 140608 | 7.2111 | 3.7325 | 19.2308 |
| 53 | 166.50 | 2206.18 | 2809 | 148877 | 7.2801 | 3.7563 | 18.8679 |
| 54 | 169.65 | 2290.22 | 2916 | 157464 | 7.3485 | 3.7798 | 18.5185 |
| **55** | **172.79** | **2375.83** | **3025** | **166375** | **7.4162** | **3.8030** | **18.1818** |
| 56 | 175.93 | 2463.01 | 3136 | 175616 | 7.4833 | 3.8259 | 17.8571 |
| 57 | 179.07 | 2551.76 | 3249 | 185193 | 7.5498 | 3.8485 | 17.5439 |
| 58 | 182.21 | 2642.08 | 3364 | 195112 | 7.6158 | 3.8709 | 17.2414 |
| 59 | 185.35 | 2733.97 | 3481 | 205379 | 7.6811 | 3.8930 | 16.9492 |
| **60** | **188.50** | **2827.43** | **3600** | **216000** | **7.7460** | **3.9149** | **16.6667** |
| 61 | 191.64 | 2922.47 | 3721 | 226981 | 7.8102 | 3.9365 | 16.3934 |
| 62 | 194.78 | 3019.07 | 3844 | 238328 | 7.8740 | 3.9579 | 16.1290 |
| 63 | 197.92 | 3117.25 | 3969 | 250047 | 7.9373 | 3.9791 | 15.8730 |
| 64 | 201.06 | 3216.99 | 4096 | 262144 | 8.0000 | 4.0000 | 15.6250 |
| **65** | **204.20** | **3318.31** | **4225** | **274625** | **8.0623** | **4.0207** | **15.3846** |
| 66 | 207.35 | 3421.19 | 4356 | 287496 | 8.1240 | 4.0412 | 15.1515 |
| 67 | 210.49 | 3525.65 | 4489 | 300763 | 8.1854 | 4.0615 | 14.9254 |
| 68 | 213.63 | 3631.68 | 4624 | 314432 | 8.2462 | 4.0817 | 14.7059 |
| 69 | 216.77 | 3739.28 | 4761 | 328509 | 8.3066 | 4.1016 | 14.4928 |
| **70** | **219.91** | **3848.45** | **4900** | **343000** | **8.3666** | **4.1213** | **14.2857** |
| 71 | 223.05 | 3959.19 | 5041 | 357911 | 8.4261 | 4.1408 | 14.0845 |
| 72 | 226.19 | 4071.50 | 5184 | 373248 | 8.4853 | 4.1602 | 13.8889 |
| 73 | 229.34 | 4185.39 | 5329 | 389017 | 8.5440 | 4.1793 | 13.6986 |
| 74 | 232.48 | 4300.84 | 5476 | 405224 | 8.6023 | 4.1983 | 13.5135 |
| **75** | **235.62** | **4417.86** | **5625** | **421875** | **8.6603** | **4.2172** | **13.3333** |
| 76 | 238.76 | 4536.46 | 5776 | 438976 | 8.7178 | 4.2358 | 13.1579 |
| 77 | 241.90 | 4656.63 | 5929 | 456533 | 8.7750 | 4.2543 | 12.9870 |
| 78 | 245.04 | 4778.36 | 6084 | 474552 | 8.8318 | 4.2727 | 12.8205 |
| 79 | 248.19 | 4901.67 | 6241 | 493039 | 8.8882 | 4.2908 | 12.6582 |
| **80** | **251.33** | **5026.55** | **6400** | **512000** | **8.9443** | **4.3089** | **12.5000** |
| 81 | 254.47 | 5153.00 | 6561 | 531441 | 9.0000 | 4.3267 | 12.3457 |
| 82 | 257.61 | 5281.02 | 6724 | 551368 | 9.0554 | 4.3445 | 12.1951 |
| 83 | 260.75 | 5410.61 | 6889 | 571787 | 9.1104 | 4.3621 | 12.0482 |
| 84 | 263.89 | 5541.77 | 7056 | 592704 | 9.1652 | 4.3795 | 11.9048 |
| **85** | **267.04** | **5674.50** | **7225** | **614125** | **9.2195** | **4.3968** | **11.7647** |
| 86 | 270.18 | 5808.80 | 7396 | 636056 | 9.2736 | 4.4140 | 11.6279 |
| 87 | 273.32 | 5944.68 | 7569 | 658503 | 9.3274 | 4.4310 | 11.4943 |
| 88 | 276.46 | 6082.12 | 7744 | 681472 | 9.3808 | 4.4480 | 11.3636 |
| 89 | 279.60 | 6221.14 | 7921 | 704969 | 9.4340 | 4.4647 | 11.2360 |
| **90** | **282.74** | **6361.73** | **8100** | **729000** | **9.4868** | **4.4814** | **11.1111** |
| 91 | 285.88 | 6503.88 | 8281 | 753571 | 9.5394 | 4.4979 | 10.9890 |
| 92 | 289.03 | 6647.61 | 8464 | 778688 | 9.5917 | 4.5144 | 10.8696 |
| 93 | 292.17 | 6792.91 | 8649 | 804357 | 9.6437 | 4.5307 | 10.7527 |
| 94 | 295.31 | 6939.78 | 8836 | 830584 | 9.6954 | 4.5468 | 10.6383 |
| **95** | **298.45** | **7088.22** | **9025** | **857375** | **9.7468** | **4.5629** | **10.5263** |
| 96 | 301.59 | 7238.23 | 9216 | 884736 | 9.7980 | 4.5789 | 10.4167 |
| 97 | 304.73 | 7389.81 | 9409 | 912673 | 9.8489 | 4.5947 | 10.3093 |
| 98 | 307.88 | 7542.96 | 9604 | 941192 | 9.8995 | 4.6104 | 10.2041 |
| 99 | 311.02 | 7697.69 | 9801 | 970299 | 9.9499 | 4.6261 | 10.1010 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **100** | **314.16** | **7853.98** | **10000** | **1000000** | **10.0000** | **4.6416** | **10.00000** |
| 101 | 317.30 | 8011.85 | 10201 | 1030301 | 10.0499 | 4.6570 | 9.90099 |
| 102 | 320.44 | 8171.28 | 10404 | 1061208 | 10.0995 | 4.6723 | 9.80392 |
| 103 | 323.58 | 8332.29 | 10609 | 1092727 | 10.1489 | 4.6875 | 9.70874 |
| 104 | 326.73 | 8494.87 | 10816 | 1124864 | 10.1980 | 4.7027 | 9.61538 |
| **105** | **329.87** | **8659.01** | **11025** | **1157625** | **10.2470** | **4.7177** | **9.52381** |
| 106 | 333.01 | 8824.73 | 11236 | 1191016 | 10.2956 | 4.7326 | 9.43396 |
| 107 | 336.15 | 8992.02 | 11449 | 1225043 | 10.3441 | 4.7475 | 9.34579 |
| 108 | 339.29 | 9160.88 | 11664 | 1259712 | 10.3923 | 4.7622 | 9.25926 |
| 109 | 342.43 | 9331.32 | 11881 | 1295029 | 10.4403 | 4.7769 | 9.17431 |
| **110** | **345.58** | **9503.32** | **12100** | **1331000** | **10.4881** | **4.7914** | **9.09091** |
| 111 | 348.72 | 9676.89 | 12321 | 1367631 | 10.5357 | 4.8059 | 9.00901 |
| 112 | 351.86 | 9852.03 | 12544 | 1404928 | 10.5830 | 4.8203 | 8.92857 |
| 113 | 355.00 | 10028.7 | 12769 | 1442897 | 10.6301 | 4.8346 | 8.84956 |
| 114 | 358.14 | 10207.0 | 12996 | 1481544 | 10.6771 | 4.8488 | 8.77193 |
| **115** | **361.28** | **10386.9** | **13225** | **1520875** | **10.7238** | **4.8629** | **8.69565** |
| 116 | 364.42 | 10568.3 | 13456 | 1560896 | 10.7703 | 4.8770 | 8.62069 |
| 117 | 367.57 | 10751.3 | 13689 | 1601613 | 10.8167 | 4.8910 | 8.54701 |
| 118 | 370.71 | 10935.9 | 13924 | 1643032 | 10.8628 | 4.9049 | 8.47458 |
| 119 | 373.85 | 11122.0 | 14161 | 1685159 | 10.9087 | 4.9187 | 8.40336 |
| **120** | **376.99** | **11309.7** | **14400** | **1728000** | **10.9545** | **4.9324** | **8.33333** |
| 121 | 380.13 | 11499.0 | 14641 | 1771561 | 11.0000 | 4.9461 | 8.26446 |
| 122 | 383.27 | 11689.9 | 14884 | 1815848 | 11.0454 | 4.9597 | 8.19672 |
| 123 | 386.42 | 11882.3 | 15129 | 1860867 | 11.0905 | 4.9732 | 8.13008 |
| 124 | 389.56 | 12076.3 | 15376 | 1906624 | 11.1355 | 4.9866 | 8.06452 |
| **125** | **392.70** | **12271.8** | **15625** | **1953125** | **11.1803** | **5.0000** | **8.00000** |
| 126 | 395.84 | 12469.0 | 15876 | 2000376 | 11.2250 | 5.0133 | 7.93651 |
| 127 | 398.98 | 12667.7 | 16129 | 2048383 | 11.2694 | 5.0265 | 7.87402 |
| 128 | 402.12 | 12868.0 | 16384 | 2097152 | 11.3137 | 5.0397 | 7.81250 |
| 129 | 405.27 | 13069.8 | 16641 | 2146689 | 11.3578 | 5.0528 | 7.75194 |
| **130** | **408.41** | **13273.2** | **16900** | **2197000** | **11.4018** | **5.0658** | **7.69231** |
| 131 | 411.55 | 13478.2 | 17161 | 2248091 | 11.4455 | 5.0788 | 7.63359 |
| 132 | 414.69 | 13684.8 | 17424 | 2299968 | 11.4891 | 5.0916 | 7.57576 |
| 133 | 417.83 | 13892.9 | 17689 | 2352637 | 11.5326 | 5.1045 | 7.51880 |
| 134 | 420.97 | 14102.6 | 17956 | 2406104 | 11.5758 | 5.1172 | 7.46269 |
| **135** | **424.12** | **14313.9** | **18225** | **2460375** | **11.6190** | **5.1299** | **7.40741** |
| 136 | 427.26 | 14526.7 | 18496 | 2515456 | 11.6619 | 5.1426 | 7.35294 |
| 137 | 430.40 | 14741.1 | 18769 | 2571353 | 11.7047 | 5.1551 | 7.29927 |
| 138 | 433.54 | 14957.1 | 19044 | 2628072 | 11.7473 | 5.1676 | 7.24638 |
| 139 | 436.68 | 15174.7 | 19321 | 2685619 | 11.7898 | 5.1801 | 7.19424 |
| **140** | **439.82** | **15393.8** | **19600** | **2744000** | **11.8322** | **5.1925** | **7.14286** |
| 141 | 442.96 | 15614.5 | 19881 | 2803221 | 11.8743 | 5.2048 | 7.09220 |
| 142 | 446.11 | 15836.8 | 20164 | 2863288 | 11.9164 | 5.2171 | 7.04225 |
| 143 | 449.25 | 16060.6 | 20449 | 2924207 | 11.9583 | 5.2293 | 6.99301 |
| 144 | 452.39 | 16286.0 | 20736 | 2985984 | 12.0000 | 5.2415 | 6.94444 |
| **145** | **455.53** | **16513.0** | **21025** | **3048625** | **12.0416** | **5.2536** | **6.89655** |
| 146 | 458.67 | 16741.5 | 21316 | 3112136 | 12.0830 | 5.2656 | 6.84932 |
| 147 | 461.81 | 16971.7 | 21609 | 3176523 | 12.1244 | 5.2776 | 6.80272 |
| 148 | 464.96 | 17203.4 | 21904 | 3241792 | 12.1655 | 5.2896 | 6.75676 |
| 149 | 468.10 | 17436.6 | 22201 | 3307949 | 12.2066 | 5.3015 | 6.71141 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **150** | **471.24** | **17671.5** | **22500** | **3375000** | **12.2474** | **5.3133** | **6.66667** |
| 151 | 474.38 | 17907.9 | 22801 | 3442951 | 12.2882 | 5.3251 | 6.62252 |
| 152 | 477.52 | 18145.8 | 23104 | 3511808 | 12.3288 | 5.3368 | 6.57895 |
| 153 | 480.66 | 18385.4 | 23409 | 3581577 | 12.3693 | 5.3485 | 6.53595 |
| 154 | 483.81 | 18626.5 | 23716 | 3652264 | 12.4097 | 5.3601 | 6.49351 |
| **155** | **486.95** | **18869.2** | **24025** | **3723875** | **12.4499** | **5.3717** | **6.45161** |
| 156 | 490.09 | 19113.4 | 24336 | 3796416 | 12.4900 | 5.3832 | 6.41026 |
| 157 | 493.23 | 19359.3 | 24649 | 3869893 | 12.5300 | 5.3947 | 6.36943 |
| 158 | 496.37 | 19606.7 | 24964 | 3944312 | 12.5698 | 5.4061 | 6.32911 |
| 159 | 499.51 | 19855.7 | 25281 | 4019679 | 12.6095 | 5.4175 | 6.28931 |
| **160** | **502.65** | **20106.2** | **25600** | **4096000** | **12.6491** | **5.4288** | **6.25000** |
| 161 | 505.80 | 20358.3 | 25921 | 4173281 | 12.6886 | 5.4401 | 6.21118 |
| 162 | 508.94 | 20612.0 | 26244 | 4251528 | 12.7279 | 5.4514 | 6.17284 |
| 163 | 512.08 | 20867.2 | 26569 | 4330747 | 12.7671 | 5.4626 | 6.13497 |
| 164 | 515.22 | 21124.1 | 26896 | 4410944 | 12.8062 | 5.4737 | 6.09756 |
| **165** | **518.36** | **21382.5** | **27225** | **4492125** | **12.8452** | **5.4848** | **6.06061** |
| 166 | 521.50 | 21642.4 | 27556 | 4574296 | 12.8841 | 5.4959 | 6.02410 |
| 167 | 524.65 | 21904.0 | 27889 | 4657463 | 12.9228 | 5.5069 | 5.98802 |
| 168 | 527.79 | 22167.1 | 28224 | 4741632 | 12.9615 | 5.5178 | 5.95238 |
| 169 | 530.93 | 22431.8 | 28561 | 4826809 | 13.0000 | 5.5288 | 5.91716 |
| **170** | **534.07** | **22698.0** | **28900** | **4913000** | **13.0384** | **5.5397** | **5.88235** |
| 171 | 537.21 | 22965.8 | 29241 | 5000211 | 13.0767 | 5.5505 | 5.84795 |
| 172 | 540.35 | 23235.2 | 29584 | 5088448 | 13.1149 | 5.5613 | 5.81395 |
| 173 | 543.50 | 23506.2 | 29929 | 5177717 | 13.1529 | 5.5721 | 5.78035 |
| 174 | 546.64 | 23778.7 | 30276 | 5268024 | 13.1909 | 5.5828 | 5.74713 |
| **175** | **549.78** | **24052.8** | **30625** | **5359375** | **13.2288** | **5.5934** | **5.71429** |
| 176 | 552.92 | 24328.5 | 30976 | 5451776 | 13.2665 | 5.6041 | 5.68182 |
| 177 | 556.06 | 24605.7 | 31329 | 5545233 | 13.3041 | 5.6147 | 5.64972 |
| 178 | 559.20 | 24884.6 | 31684 | 5639752 | 13.3417 | 5.6252 | 5.61798 |
| 179 | 562.35 | 25164.9 | 32041 | 5735339 | 13.3791 | 5.6357 | 5.58659 |
| **180** | **565.49** | **25446.9** | **32400** | **5832000** | **13.4164** | **5.6462** | **5.55556** |
| 181 | 568.63 | 25730.4 | 32761 | 5929741 | 13.4536 | 5.6567 | 5.52486 |
| 182 | 571.77 | 26015.5 | 33124 | 6028568 | 13.4907 | 5.6671 | 5.49451 |
| 183 | 574.91 | 26302.2 | 33489 | 6128487 | 13.5277 | 5.6774 | 5.46448 |
| 184 | 578.05 | 26590.4 | 33856 | 6229504 | 13.5647 | 5.6877 | 5.43478 |
| **185** | **581.19** | **26880.3** | **34225** | **6331625** | **13.6015** | **5.6980** | **5.40541** |
| 186 | 584.34 | 27171.6 | 34596 | 6434856 | 13.6382 | 5.7083 | 5.37634 |
| 187 | 587.48 | 27464.6 | 34969 | 6539203 | 13.6748 | 5.7185 | 5.34759 |
| 188 | 590.62 | 27759.1 | 35344 | 6644672 | 13.7113 | 5.7287 | 5.31915 |
| 189 | 593.76 | 28055.2 | 35721 | 6751269 | 13.7477 | 5.7388 | 5.29101 |
| **190** | **596.90** | **28352.9** | **36100** | **6859000** | **13.7840** | **5.7489** | **5.26316** |
| 191 | 600.04 | 28652.1 | 36481 | 6967871 | 13.8203 | 5.7590 | 5.23560 |
| 192 | 603.19 | 28952.9 | 36864 | 7077888 | 13.8564 | 5.7690 | 5.20833 |
| 193 | 606.33 | 29255.3 | 37249 | 7189057 | 13.8924 | 5.7790 | 5.18135 |
| 194 | 609.47 | 29559.2 | 37636 | 7301384 | 13.9284 | 5.7890 | 5.15464 |
| **195** | **612.61** | **29864.8** | **38025** | **7414875** | **13.9642** | **5.7989** | **5.12821** |
| 196 | 615.75 | 30171.9 | 38416 | 7529536 | 14.0000 | 5.8088 | 5.10204 |
| 197 | 618.89 | 30480.5 | 38809 | 7645373 | 14.0357 | 5.8186 | 5.07614 |
| 198 | 622.04 | 30790.7 | 39204 | 7762392 | 14.0712 | 5.8285 | 5.05051 |
| 199 | 625.18 | 31102.6 | 39601 | 7880599 | 14.1067 | 5.8383 | 5.02513 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **200** | **628.32** | **31415.9** | **40000** | **8000000** | **14.1421** | **5.8480** | **5.00000** |
| 201 | 631.46 | 31730.9 | 40401 | 8120601 | 14.1774 | 5.8578 | 4.97512 |
| 202 | 634.60 | 32047.4 | 40804 | 8242408 | 14.2127 | 5.8675 | 4.95050 |
| 203 | 637.74 | 32365.5 | 41209 | 8365427 | 14.2478 | 5.8771 | 4.92611 |
| 204 | 640.89 | 32685.1 | 41616 | 8489664 | 14.2829 | 5.8868 | 4.90196 |
| **205** | **644.03** | **33006.4** | **42025** | **8615125** | **14.3178** | **5.8964** | **4.87805** |
| 206 | 647.17 | 33329.2 | 42436 | 8741816 | 14.3527 | 5.9059 | 4.85437 |
| 207 | 650.31 | 33653.5 | 42849 | 8869743 | 14.3875 | 5.9155 | 4.83092 |
| 208 | 653.45 | 33979.5 | 43264 | 8998912 | 14.4222 | 5.9250 | 4.80769 |
| 209 | 656.59 | 34307.0 | 43681 | 9129329 | 14.4568 | 5.9345 | 4.78469 |
| **210** | **659.73** | **34636.1** | **44100** | **9261000** | **14.4914** | **5.9439** | **4.76190** |
| 211 | 662.88 | 34966.7 | 44521 | 9393931 | 14.5258 | 5.9533 | 4.73934 |
| 212 | 666.02 | 35298.9 | 44944 | 9528128 | 14.5602 | 5.9627 | 4.71698 |
| 213 | 669.16 | 35632.7 | 45369 | 9663597 | 14.5945 | 5.9721 | 4.69484 |
| 214 | 672.30 | 35968.1 | 45796 | 9800344 | 14.6287 | 5.9814 | 4.67290 |
| **215** | **675.44** | **36305.0** | **46225** | **9938375** | **14.6629** | **5.9907** | **4.65116** |
| 216 | 678.58 | 36643.5 | 46656 | 10077696 | 14.6969 | 6.0000 | 4.62963 |
| 217 | 681.73 | 36983.6 | 47089 | 10218313 | 14.7309 | 6.0092 | 4.60829 |
| 218 | 684.87 | 37325.3 | 47524 | 10360232 | 14.7648 | 6.0185 | 4.58716 |
| 219 | 688.01 | 37668.5 | 47961 | 10503459 | 14.7986 | 6.0277 | 4.56621 |
| **220** | **691.15** | **38013.3** | **48400** | **10648000** | **14.8324** | **6.0368** | **4.54545** |
| 221 | 694.29 | 38359.6 | 48841 | 10793861 | 14.8661 | 6.0459 | 4.52489 |
| 222 | 697.43 | 38707.6 | 49284 | 10941048 | 14.8997 | 6.0550 | 4.50450 |
| 223 | 700.58 | 39057.1 | 49729 | 11089567 | 14.9332 | 6.0641 | 4.48431 |
| 224 | 703.72 | 39408.1 | 50176 | 11239424 | 14.9666 | 6.0732 | 4.46429 |
| **225** | **706.86** | **39760.8** | **50625** | **11390625** | **15.0000** | **6.0822** | **4.44444** |
| 226 | 710.00 | 40115.0 | 51076 | 11543176 | 15.0333 | 6.0912 | 4.42478 |
| 227 | 713.14 | 40470.8 | 51529 | 11697083 | 15.0665 | 6.1002 | 4.40529 |
| 228 | 716.28 | 40828.1 | 51984 | 11852352 | 15.0997 | 6.1091 | 4.38596 |
| 229 | 719.42 | 41187.1 | 52441 | 12008989 | 15.1327 | 6.1180 | 4.36681 |
| **230** | **722.57** | **41547.6** | **52900** | **12167000** | **15.1658** | **6.1269** | **4.34783** |
| 231 | 725.71 | 41909.6 | 53361 | 12326391 | 15.1987 | 6.1358 | 4.32900 |
| 232 | 728.85 | 42273.3 | 53824 | 12487168 | 15.2315 | 6.1446 | 4.31034 |
| 233 | 731.99 | 42638.5 | 54289 | 12649337 | 15.2643 | 6.1534 | 4.29185 |
| 234 | 735.13 | 43005.3 | 54756 | 12812904 | 15.2971 | 6.1622 | 4.27350 |
| **235** | **738.27** | **43373.6** | **55225** | **12977875** | **15.3297** | **6.1710** | **4.25532** |
| 236 | 741.42 | 43743.5 | 55696 | 13144256 | 15.3623 | 6.1797 | 4.23729 |
| 237 | 744.56 | 44115.0 | 56169 | 13312053 | 15.3948 | 6.1885 | 4.21941 |
| 238 | 747.70 | 44488.1 | 56644 | 13481272 | 15.4272 | 6.1972 | 4.20168 |
| 239 | 750.84 | 44862.7 | 57121 | 13651919 | 15.4596 | 6.2058 | 4.18410 |
| **240** | **753.98** | **45238.9** | **57600** | **13824000** | **15.4919** | **6.2145** | **4.16667** |
| 241 | 757.12 | 45616.7 | 58081 | 13997521 | 15.5242 | 6.2231 | 4.14938 |
| 242 | 760.27 | 45996.1 | 58564 | 14172488 | 15.5563 | 6.2317 | 4.13223 |
| 243 | 763.41 | 46377.0 | 59049 | 14348907 | 15.5885 | 6.2403 | 4.11523 |
| 244 | 766.55 | 46759.5 | 59536 | 14526784 | 15.6205 | 6.2488 | 4.09836 |
| **245** | **769.69** | **47143.5** | **60025** | **14706125** | **15.6525** | **6.2573** | **4.08163** |
| 246 | 772.83 | 47529.2 | 60516 | 14886936 | 15.6844 | 6.2658 | 4.06504 |
| 247 | 775.97 | 47916.4 | 61009 | 15069223 | 15.7162 | 6.2743 | 4.04858 |
| 248 | 779.12 | 48305.1 | 61504 | 15252992 | 15.7480 | 6.2828 | 4.03226 |
| 249 | 782.26 | 48695.5 | 62001 | 15438249 | 15.7797 | 6.2912 | 4.01606 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **250** | **785.40** | **49087.4** | **62500** | **15625000** | **15.8114** | **6.2996** | **4.00000** |
| 251 | 788.54 | 49480.9 | 63001 | 15813251 | 15.8430 | 6.3080 | 3.98406 |
| 252 | 791.68 | 49875.9 | 63504 | 16003008 | 15.8745 | 6.3164 | 3.96825 |
| 253 | 794.82 | 50272.6 | 64009 | 16194277 | 15.9060 | 6.3247 | 3.95257 |
| 254 | 797.96 | 50670.7 | 64516 | 16387064 | 15.9374 | 6.3330 | 3.93701 |
| **255** | **801.11** | **51070.5** | **65025** | **16581375** | **15.9687** | **6.3413** | **3.92157** |
| 256 | 804.25 | 51471.9 | 65536 | 16777216 | 16.0000 | 6.3496 | 3.90625 |
| 257 | 807.39 | 51874.8 | 66049 | 16974593 | 16.0312 | 6.3579 | 3.89105 |
| 258 | 810.53 | 52279.2 | 66564 | 17173512 | 16.0624 | 6.3661 | 3.87597 |
| 259 | 813.67 | 52685.3 | 67081 | 17373979 | 16.0935 | 6.3743 | 3.86100 |
| **260** | **816.81** | **53092.9** | **67600** | **17576000** | **16.1245** | **6.3825** | **3.84615** |
| 261 | 819.96 | 53502.1 | 68121 | 17779581 | 16.1555 | 6.3907 | 3.83142 |
| 262 | 823.10 | 53912.9 | 68644 | 17984728 | 16.1864 | 6.3988 | 3.81679 |
| 263 | 826.24 | 54325.2 | 69169 | 18191447 | 16.2173 | 6.4070 | 3.80228 |
| 264 | 829.38 | 54739.1 | 69696 | 18399744 | 16.2481 | 6.4151 | 3.78788 |
| **265** | **832.52** | **55154.6** | **70225** | **18609625** | **16.2788** | **6.4232** | **3.77358** |
| 266 | 835.66 | 55571.6 | 70756 | 18821096 | 16.3095 | 6.4312 | 3.75940 |
| 267 | 838.81 | 55990.3 | 71289 | 19034163 | 16.3401 | 6.4393 | 3.74532 |
| 268 | 841.95 | 56410.4 | 71824 | 19248832 | 16.3707 | 6.4473 | 3.73134 |
| 269 | 845.09 | 56832.2 | 72361 | 19465109 | 16.4012 | 6.4553 | 3.71747 |
| **270** | **848.23** | **57255.5** | **72900** | **19683000** | **16.4317** | **6.4633** | **3.70370** |
| 271 | 851.37 | 57680.4 | 73441 | 19902511 | 16.4621 | 6.4713 | 3.69004 |
| 272 | 854.51 | 58106.9 | 73984 | 20123648 | 16.4924 | 6.4792 | 3.67647 |
| 273 | 857.66 | 58534.9 | 74529 | 20346417 | 16.5227 | 6.4872 | 3.66300 |
| 274 | 860.80 | 58964.6 | 75076 | 20570824 | 16.5529 | 6.4951 | 3.64964 |
| **275** | **863.94** | **59395.7** | **75625** | **20796875** | **16.5831** | **6.5030** | **3.63636** |
| 276 | 867.08 | 59828.5 | 76176 | 21024576 | 16.6132 | 6.5108 | 3.62319 |
| 277 | 870.22 | 60262.8 | 76729 | 21253933 | 16.6433 | 6.5187 | 3.61011 |
| 278 | 873.36 | 60698.7 | 77284 | 21484952 | 16.6733 | 6.5265 | 3.59712 |
| 279 | 876.50 | 61136.2 | 77841 | 21717639 | 16.7033 | 6.5343 | 3.58423 |
| **280** | **879.65** | **61575.2** | **78400** | **21952000** | **16.7332** | **6.5421** | **3.57143** |
| 281 | 882.79 | 62015.8 | 78961 | 22188041 | 16.7631 | 6.5499 | 3.55872 |
| 282 | 885.93 | 62458.0 | 79524 | 22425768 | 16.7929 | 6.5577 | 3.54610 |
| 283 | 889.07 | 62901.8 | 80089 | 22665187 | 16.8226 | 6.5654 | 3.53357 |
| 284 | 892.21 | 63347.1 | 80656 | 22906304 | 16.8523 | 6.5731 | 3.52113 |
| **285** | **895.35** | **63794.0** | **81225** | **23149125** | **16.8819** | **6.5808** | **3.50877** |
| 286 | 898.50 | 64242.4 | 81796 | 23393656 | 16.9115 | 6.5885 | 3.49650 |
| 287 | 901.64 | 64692.5 | 82369 | 23639903 | 16.9411 | 6.5962 | 3.48432 |
| 288 | 904.78 | 65144.1 | 82944 | 23887872 | 16.9706 | 6.6039 | 3.47222 |
| 289 | 907.92 | 65597.2 | 83521 | 24137569 | 17.0000 | 6.6115 | 3.46021 |
| **290** | **911.06** | **66052.0** | **84100** | **24389000** | **17.0294** | **6.6191** | **3.44828** |
| 291 | 914.20 | 66508.3 | 84681 | 24642171 | 17.0587 | 6.6267 | 3.43643 |
| 292 | 917.35 | 66966.2 | 85264 | 24897088 | 17.0880 | 6.6343 | 3.42466 |
| 293 | 920.49 | 67425.6 | 85849 | 25153757 | 17.1172 | 6.6419 | 3.41297 |
| 294 | 923.63 | 67886.7 | 86436 | 25412184 | 17.1464 | 6.6494 | 3.40136 |
| **295** | **926.77** | **68349.3** | **87025** | **25672375** | **17.1756** | **6.6569** | **3.38983** |
| 296 | 929.91 | 68813.5 | 87616 | 25934336 | 17.2047 | 6.6644 | 3.37838 |
| 297 | 933.05 | 69279.2 | 88209 | 26198073 | 17.2337 | 6.6719 | 3.36700 |
| 298 | 936.19 | 69746.5 | 88804 | 26463592 | 17.2627 | 6.6794 | 3.35570 |
| 299 | 939.34 | 70215.4 | 89401 | 26730899 | 17.2916 | 6.6869 | 3.34448 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **300** | **942.48** | **70685.8** | **90000** | **27000000** | **17.3205** | **6.6943** | **3.33333** |
| 301 | 945.62 | 71157.9 | 90601 | 27270901 | 17.3494 | 6.7018 | 3.32226 |
| 302 | 948.76 | 71631.5 | 91204 | 27543608 | 17.3781 | 6.7092 | 3.31126 |
| 303 | 951.90 | 72106.6 | 91809 | 27818127 | 17.4069 | 6.7166 | 3.30033 |
| 304 | 955.04 | 72583.4 | 92416 | 28094464 | 17.4356 | 6.7240 | 3.28947 |
| **305** | **958.19** | **73061.7** | **93025** | **28372625** | **17.4642** | **6.7313** | **3.27869** |
| 306 | 961.33 | 73541.5 | 93636 | 28652616 | 17.4929 | 6.7387 | 3.26797 |
| 307 | 964.47 | 74023.0 | 94249 | 28934443 | 17.5214 | 6.7460 | 3.25733 |
| 308 | 967.61 | 74506.0 | 94864 | 29218112 | 17.5499 | 6.7533 | 3.24675 |
| 309 | 970.75 | 74990.6 | 95481 | 29503629 | 17.5784 | 6.7606 | 3.23625 |
| **310** | **973.89** | **75476.8** | **96100** | **29791000** | **17.6068** | **6.7679** | **3.22581** |
| 311 | 977.04 | 75964.5 | 96721 | 30080231 | 17.6352 | 6.7752 | 3.21543 |
| 312 | 980.18 | 76453.8 | 97344 | 30371328 | 17.6635 | 6.7824 | 3.20513 |
| 313 | 983.32 | 76944.7 | 97969 | 30664297 | 17.6918 | 6.7897 | 3.19489 |
| 314 | 986.46 | 77437.1 | 98596 | 30959144 | 17.7200 | 6.7969 | 3.18471 |
| **315** | **989.60** | **77931.1** | **99225** | **31255875** | **17.7482** | **6.8041** | **3.17460** |
| 316 | 992.74 | 78426.7 | 99856 | 31554496 | 17.7764 | 6.8113 | 3.16456 |
| 317 | 995.88 | 78923.9 | 100489 | 31855013 | 17.8045 | 6.8185 | 3.15457 |
| 318 | 999.03 | 79422.6 | 101124 | 32157432 | 17.8326 | 6.8256 | 3.14465 |
| 319 | 1002.2 | 79922.9 | 101761 | 32461759 | 17.8606 | 6.8328 | 3.13480 |
| **320** | **1005.3** | **80424.8** | **102400** | **32768000** | **17.8885** | **6.8399** | **3.12500** |
| 321 | 1008.5 | 80928.2 | 103041 | 33076161 | 17.9165 | 6.8470 | 3.11527 |
| 322 | 1011.6 | 81433.2 | 103684 | 33386248 | 17.9444 | 6.8541 | 3.10559 |
| 323 | 1014.7 | 81939.8 | 104329 | 33698267 | 17.9722 | 6.8612 | 3.09598 |
| 324 | 1017.9 | 82448.0 | 104976 | 34012224 | 18.0000 | 6.8683 | 3.08642 |
| **325** | **1021.0** | **82957.7** | **105625** | **34328125** | **18.0278** | **6.8753** | **3.07692** |
| 326 | 1024.2 | 83469.0 | 106276 | 34645976 | 18.0555 | 6.8824 | 3.06749 |
| 327 | 1027.3 | 83981.8 | 106929 | 34965783 | 18.0831 | 6.8894 | 3.05810 |
| 328 | 1030.4 | 84496.3 | 107584 | 35287552 | 18.1108 | 6.8964 | 3.04878 |
| 329 | 1033.6 | 85012.3 | 108241 | 35611289 | 18.1384 | 6.9034 | 3.03951 |
| **330** | **1036.7** | **85529.9** | **108900** | **35937000** | **18.1659** | **6.9104** | **3.03030** |
| 331 | 1039.9 | 86049.0 | 109561 | 36264691 | 18.1934 | 6.9174 | 3.02115 |
| 332 | 1043.0 | 86569.7 | 110224 | 36594368 | 18.2209 | 6.9244 | 3.01205 |
| 333 | 1046.2 | 87092.0 | 110889 | 36926037 | 18.2483 | 6.9313 | 3.00300 |
| 334 | 1049.3 | 87615.9 | 111556 | 37259704 | 18.2757 | 6.9382 | 2.99401 |
| **335** | **1052.4** | **88141.3** | **112225** | **37595375** | **18.3030** | **6.9451** | **2.98507** |
| 336 | 1055.6 | 88668.3 | 112896 | 37933056 | 18.3303 | 6.9521 | 2.97619 |
| 337 | 1058.7 | 89196.9 | 113569 | 38272753 | 18.3576 | 6.9589 | 2.96736 |
| 338 | 1061.9 | 89727.0 | 114244 | 38614472 | 18.3848 | 6.9658 | 2.95858 |
| 339 | 1065.0 | 90258.7 | 114921 | 38958219 | 18.4120 | 6.9727 | 2.94985 |
| **340** | **1068.1** | **90792.0** | **115600** | **39304000** | **18.4391** | **6.9795** | **2.94118** |
| 341 | 1071.3 | 91326.9 | 116281 | 39651821 | 18.4662 | 6.9864 | 2.93255 |
| 342 | 1074.4 | 91863.3 | 116964 | 40001688 | 18.4932 | 6.9932 | 2.92398 |
| 343 | 1077.6 | 92401.3 | 117649 | 40353607 | 18.5203 | 7.0000 | 2.91545 |
| 344 | 1080.7 | 92940.9 | 118336 | 40707584 | 18.5472 | 7.0068 | 2.90698 |
| **345** | **1083.8** | **93482.0** | **119025** | **41063625** | **18.5742** | **7.0136** | **2.89855** |
| 346 | 1087.0 | 94024.7 | 119716 | 41421736 | 18.6011 | 7.0203 | 2.89017 |
| 347 | 1090.1 | 94569.0 | 120409 | 41781923 | 18.6279 | 7.0271 | 2.88184 |
| 348 | 1093.3 | 95114.9 | 121104 | 42144192 | 18.6548 | 7.0338 | 2.87356 |
| 349 | 1096.4 | 95662.3 | 121801 | 42508549 | 18.6815 | 7.0406 | 2.86533 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **350** | **1099.6** | **96211.3** | **122500** | **42875000** | **18.7083** | **7.0473** | **2.85714** |
| 351 | 1102.7 | 96761.8 | 123201 | 43243551 | 18.7350 | 7.0540 | 2.84900 |
| 352 | 1105.8 | 97314.0 | 123904 | 43614208 | 18.7617 | 7.0607 | 2.84091 |
| 353 | 1109.0 | 97867.7 | 124609 | 43986977 | 18.7883 | 7.0674 | 2.83286 |
| 354 | 1112.1 | 98423.0 | 125316 | 44361864 | 18.8149 | 7.0740 | 2.82486 |
| **355** | **1115.3** | **98979.8** | **126025** | **44738875** | **18.8414** | **7.0807** | **2.81690** |
| 356 | 1118.4 | 99538.2 | 126736 | 45118016 | 18.8680 | 7.0873 | 2.80899 |
| 357 | 1121.5 | 100098 | 127449 | 45499293 | 18.8944 | 7.0940 | 2.80112 |
| 358 | 1124.7 | 100660 | 128164 | 45882712 | 18.9209 | 7.1006 | 2.79330 |
| 359 | 1127.8 | 101223 | 128881 | 46268279 | 18.9473 | 7.1072 | 2.78552 |
| **360** | **1131.0** | **101788** | **129600** | **46656000** | **18.9737** | **7.1138** | **2.77778** |
| 361 | 1134.1 | 102354 | 130321 | 47045881 | 19.0000 | 7.1204 | 2.77008 |
| 362 | 1137.3 | 102922 | 131044 | 47437928 | 19.0263 | 7.1269 | 2.76243 |
| 363 | 1140.4 | 103491 | 131769 | 47832147 | 19.0526 | 7.1335 | 2.75482 |
| 364 | 1143.5 | 104062 | 132496 | 48228544 | 19.0788 | 7.1400 | 2.74725 |
| **365** | **1146.7** | **104635** | **133225** | **48627125** | **19.1050** | **7.1466** | **2.73973** |
| 366 | 1149.8 | 105209 | 133956 | 49027896 | 19.1311 | 7.1531 | 2.73224 |
| 367 | 1153.0 | 105785 | 134689 | 49430863 | 19.1572 | 7.1596 | 2.72480 |
| 368 | 1156.1 | 106362 | 135424 | 49836032 | 19.1833 | 7.1661 | 2.71739 |
| 369 | 1159.2 | 106941 | 136161 | 50243409 | 19.2094 | 7.1726 | 2.71003 |
| **370** | **1162.4** | **107521** | **136900** | **50653000** | **19.2354** | **7.1791** | **2.70270** |
| 371 | 1165.5 | 108103 | 137641 | 51064811 | 19.2614 | 7.1855 | 2.69542 |
| 372 | 1168.7 | 108687 | 138384 | 51478848 | 19.2873 | 7.1920 | 2.68817 |
| 373 | 1171.8 | 109272 | 139129 | 51895117 | 19.3132 | 7.1984 | 2.68097 |
| 374 | 1175.0 | 109858 | 139876 | 52313624 | 19.3391 | 7.2048 | 2.67380 |
| **375** | **1178.1** | **110447** | **140625** | **52734375** | **19.3649** | **7.2112** | **2.66667** |
| 376 | 1181.2 | 111036 | 141376 | 53157376 | 19.3907 | 7.2177 | 2.65957 |
| 377 | 1184.4 | 111628 | 142129 | 53582633 | 19.4165 | 7.2240 | 2.65252 |
| 378 | 1187.5 | 112221 | 142884 | 54010152 | 19.4422 | 7.2304 | 2.64550 |
| 379 | 1190.7 | 112815 | 143641 | 54439939 | 19.4679 | 7.2368 | 2.63852 |
| **380** | **1193.8** | **113411** | **144400** | **54872000** | **19.4936** | **7.2432** | **2.63158** |
| 381 | 1196.9 | 114009 | 145161 | 55306341 | 19.5192 | 7.2495 | 2.62467 |
| 382 | 1200.1 | 114608 | 145924 | 55742968 | 19.5448 | 7.2558 | 2.61780 |
| 383 | 1203.2 | 115209 | 146689 | 56181887 | 19.5704 | 7.2622 | 2.61097 |
| 384 | 1206.4 | 115812 | 147456 | 56623104 | 19.5959 | 7.2685 | 2.60417 |
| **385** | **1209.5** | **116416** | **148225** | **57066625** | **19.6214** | **7.2748** | **2.59740** |
| 386 | 1212.7 | 117021 | 148996 | 57512456 | 19.6469 | 7.2811 | 2.59067 |
| 387 | 1215.8 | 117628 | 149769 | 57960603 | 19.6723 | 7.2874 | 2.58398 |
| 388 | 1218.9 | 118237 | 150544 | 58411072 | 19.6977 | 7.2936 | 2.57732 |
| 389 | 1222.1 | 118847 | 151321 | 58863869 | 19.7231 | 7.2999 | 2.57069 |
| **390** | **1225.2** | **119459** | **152100** | **59319000** | **19.7484** | **7.3061** | **2.56410** |
| 391 | 1228.4 | 120072 | 152881 | 59776471 | 19.7737 | 7.3124 | 2.55755 |
| 392 | 1231.5 | 120687 | 153664 | 60236288 | 19.7990 | 7.3186 | 2.55102 |
| 393 | 1234.6 | 121304 | 154449 | 60698457 | 19.8242 | 7.3248 | 2.54453 |
| 394 | 1237.8 | 121922 | 155236 | 61162984 | 19.8494 | 7.3310 | 2.53807 |
| **395** | **1240.9** | **122542** | **156025** | **61629875** | **19.8746** | **7.3372** | **2.53165** |
| 396 | 1244.1 | 123163 | 156816 | 62099136 | 19.8997 | 7.3434 | 2.52525 |
| 397 | 1247.2 | 123786 | 157609 | 62570773 | 19.9249 | 7.3496 | 2.51889 |
| 398 | 1250.4 | 124410 | 158404 | 63044792 | 19.9499 | 7.3558 | 2.51256 |
| 399 | 1253.5 | 125036 | 159201 | 63521199 | 19.9750 | 7.3619 | 2.50627 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **400** | **1256.6** | **125664** | **160000** | **64000000** | **20.0000** | **7.3681** | **2.50000** |
| 401 | 1259.8 | 126293 | 160801 | 64481201 | 20.0250 | 7.3742 | 2.49377 |
| 402 | 1262.9 | 126923 | 161604 | 64964808 | 20.0499 | 7.3803 | 2.48756 |
| 403 | 1266.1 | 127556 | 162409 | 65450827 | 20.0749 | 7.3864 | 2.48139 |
| 404 | 1269.2 | 128190 | 163216 | 65939264 | 20.0998 | 7.3925 | 2.47525 |
| **405** | **1272.3** | **128825** | **164025** | **66430125** | **20.1246** | **7.3986** | **2.46914** |
| 406 | 1275.5 | 129462 | 164836 | 66923416 | 20.1494 | 7.4047 | 2.46305 |
| 407 | 1278.6 | 130100 | 165649 | 67419143 | 20.1742 | 7.4108 | 2.45700 |
| 408 | 1281.8 | 130741 | 166464 | 67917312 | 20.1990 | 7.4169 | 2.45098 |
| 409 | 1284.9 | 131382 | 167281 | 68417929 | 20.2237 | 7.4229 | 2.44499 |
| **410** | **1288.1** | **132025** | **168100** | **68921000** | **20.2485** | **7.4290** | **2.43902** |
| 411 | 1291.2 | 132670 | 168921 | 69426531 | 20.2731 | 7.4350 | 2.43309 |
| 412 | 1294.3 | 133317 | 169744 | 69934528 | 20.2978 | 7.4410 | 2.42718 |
| 413 | 1297.5 | 133965 | 170569 | 70444997 | 20.3224 | 7.4470 | 2.42131 |
| 414 | 1300.6 | 134614 | 171396 | 70957944 | 20.3470 | 7.4530 | 2.41546 |
| **415** | **1303.8** | **135265** | **172225** | **71473375** | **20.3715** | **7.4590** | **2.40964** |
| 416 | 1306.9 | 135918 | 173056 | 71991296 | 20.3961 | 7.4650 | 2.40385 |
| 417 | 1310.0 | 136572 | 173889 | 72511713 | 20.4206 | 7.4710 | 2.39808 |
| 418 | 1313.2 | 137228 | 174724 | 73034632 | 20.4450 | 7.4770 | 2.39234 |
| 419 | 1316.3 | 137885 | 175561 | 73560059 | 20.4695 | 7.4829 | 2.38664 |
| **420** | **1319.5** | **138544** | **176400** | **74088000** | **20.4939** | **7.4889** | **2.38095** |
| 421 | 1322.6 | 139205 | 177241 | 74618461 | 20.5183 | 7.4948 | 2.37530 |
| 422 | 1325.8 | 139867 | 178084 | 75151448 | 20.5426 | 7.5007 | 2.36967 |
| 423 | 1328.9 | 140531 | 178929 | 75686967 | 20.5670 | 7.5067 | 2.36407 |
| 424 | 1332.0 | 141196 | 179776 | 76225024 | 20.5913 | 7.5126 | 2.35849 |
| **425** | **1335.2** | **141863** | **180625** | **76765625** | **20.6155** | **7.5185** | **2.35294** |
| 426 | 1338.3 | 142531 | 181476 | 77308776 | 20.6398 | 7.5244 | 2.34742 |
| 427 | 1341.5 | 143201 | 182329 | 77854483 | 20.6640 | 7.5302 | 2.34192 |
| 428 | 1344.6 | 143872 | 183184 | 78402752 | 20.6882 | 7.5361 | 2.33645 |
| 429 | 1347.7 | 144545 | 184041 | 78953589 | 20.7123 | 7.5420 | 2.33100 |
| **430** | **1350.9** | **145220** | **184900** | **79507000** | **20.7364** | **7.5478** | **2.32558** |
| 431 | 1354.0 | 145896 | 185761 | 80062991 | 20.7605 | 7.5537 | 2.32019 |
| 432 | 1357.2 | 146574 | 186624 | 80621568 | 20.7846 | 7.5595 | 2.31482 |
| 433 | 1360.3 | 147254 | 187489 | 81182737 | 20.8087 | 7.5654 | 2.30947 |
| 434 | 1363.5 | 147934 | 188356 | 81746504 | 20.8327 | 7.5712 | 2.30415 |
| **435** | **1366.6** | **148617** | **189225** | **82312875** | **20.8567** | **7.5770** | **2.29885** |
| 436 | 1369.7 | 149301 | 190096 | 82881856 | 20.8806 | 7.5828 | 2.29358 |
| 437 | 1372.9 | 149987 | 190969 | 83453453 | 20.9045 | 7.5886 | 2.28833 |
| 438 | 1376.0 | 150674 | 191844 | 84027672 | 20.9284 | 7.5944 | 2.28311 |
| 439 | 1379.2 | 151363 | 192721 | 84604519 | 20.9523 | 7.6001 | 2.27790 |
| **440** | **1382.3** | **152053** | **193600** | **85184000** | **20.9762** | **7.6059** | **2.27273** |
| 441 | 1385.4 | 152745 | 194481 | 85766121 | 21.0000 | 7.6117 | 2.26757 |
| 442 | 1388.6 | 153439 | 195364 | 86350888 | 21.0238 | 7.6174 | 2.26244 |
| 443 | 1391.7 | 154134 | 196249 | 86938307 | 21.0476 | 7.6232 | 2.25734 |
| 444 | 1394.9 | 154830 | 197136 | 87528384 | 21.0713 | 7.6289 | 2.25225 |
| **445** | **1398.0** | **155528** | **198025** | **88121125** | **21.0950** | **7.6346** | **2.24719** |
| 446 | 1401.2 | 156228 | 198916 | 88716536 | 21.1187 | 7.6403 | 2.24215 |
| 447 | 1404.3 | 156930 | 199809 | 89314623 | 21.1424 | 7.6460 | 2.23714 |
| 448 | 1407.4 | 157633 | 200704 | 89915392 | 21.1660 | 7.6517 | 2.23214 |
| 449 | 1410.6 | 158337 | 201601 | 90518849 | 21.1896 | 7.6574 | 2.22717 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **450** | **1413.7** | **159043** | **202500** | **91125000** | **21.2132** | **7.6631** | **2.22222** |
| 451 | 1416.9 | 159751 | 203401 | 91733851 | 21.2368 | 7.6688 | 2.21730 |
| 452 | 1420.0 | 160460 | 204304 | 92345408 | 21.2603 | 7.6744 | 2.21239 |
| 453 | 1423.1 | 161171 | 205209 | 92959677 | 21.2838 | 7.6801 | 2.20751 |
| 454 | 1426.3 | 161883 | 206116 | 93576664 | 21.3073 | 7.6857 | 2.20264 |
| **455** | **1429.4** | **162597** | **207025** | **94196375** | **21.3307** | **7.6914** | **2.19780** |
| 456 | 1432.6 | 163313 | 207936 | 94818816 | 21.3542 | 7.6970 | 2.19298 |
| 457 | 1435.7 | 164030 | 208849 | 95443993 | 21.3776 | 7.7026 | 2.18818 |
| 458 | 1438.9 | 164748 | 209764 | 96071912 | 21.4009 | 7.7082 | 2.18341 |
| 459 | 1442.0 | 165468 | 210681 | 96702579 | 21.4243 | 7.7138 | 2.17865 |
| **460** | **1445.1** | **166190** | **211600** | **97336000** | **21.4476** | **7.7194** | **2.17391** |
| 461 | 1448.3 | 166914 | 212521 | 97972181 | 21.4709 | 7.7250 | 2.16920 |
| 462 | 1451.4 | 167639 | 213444 | 98611128 | 21.4942 | 7.7306 | 2.16450 |
| 463 | 1454.6 | 168365 | 214369 | 99252847 | 21.5174 | 7.7362 | 2.15983 |
| 464 | 1457.7 | 169093 | 215296 | 99897344 | 21.5407 | 7.7418 | 2.15517 |
| **465** | **1460.8** | **169823** | **216225** | **100544625** | **21.5639** | **7.7473** | **2.15054** |
| 466 | 1464.0 | 170554 | 217156 | 101194696 | 21.5870 | 7.7529 | 2.14592 |
| 467 | 1467.1 | 171287 | 218089 | 101847563 | 21.6102 | 7.7584 | 2.14133 |
| 468 | 1470.3 | 172021 | 219024 | 102503232 | 21.6333 | 7.7639 | 2.13675 |
| 469 | 1473.4 | 172757 | 219961 | 103161709 | 21.6564 | 7.7695 | 2.13220 |
| **470** | **1476.5** | **173494** | **220900** | **103823000** | **21.6795** | **7.7750** | **2.12766** |
| 471 | 1479.7 | 174234 | 221841 | 104487111 | 21.7025 | 7.7805 | 2.12314 |
| 472 | 1482.8 | 174974 | 222784 | 105154048 | 21.7256 | 7.7860 | 2.11864 |
| 473 | 1486.0 | 175716 | 223729 | 105823817 | 21.7486 | 7.7915 | 2.11417 |
| 474 | 1489.1 | 176460 | 224676 | 106496424 | 21.7715 | 7.7970 | 2.10971 |
| **475** | **1492.3** | **177205** | **225625** | **107171875** | **21.7945** | **7.8025** | **2.10526** |
| 476 | 1495.4 | 177952 | 226576 | 107850176 | 21.8174 | 7.8079 | 2.10084 |
| 477 | 1498.5 | 178701 | 227529 | 108531333 | 21.8403 | 7.8134 | 2.09644 |
| 478 | 1501.7 | 179451 | 228484 | 109215352 | 21.8632 | 7.8188 | 2.09205 |
| 479 | 1504.8 | 180203 | 229441 | 109902239 | 21.8861 | 7.8243 | 2.08768 |
| **480** | **1508.0** | **180956** | **230400** | **110592000** | **21.9089** | **7.8297** | **2.08333** |
| 481 | 1511.1 | 181711 | 231361 | 111284641 | 21.9317 | 7.8352 | 2.07900 |
| 482 | 1514 3 | 182467 | 232324 | 111980168 | 21.9545 | 7.8406 | 2.07469 |
| 483 | 1517.4 | 183225 | 233289 | 112678587 | 21.9773 | 7.8460 | 2.07039 |
| 484 | 1520.5 | 183984 | 234256 | 113379904 | 22.0000 | 7.8514 | 2.06612 |
| **485** | **1523.7** | **184745** | **235225** | **114084125** | **22.0227** | **7.8568** | **2.06186** |
| 486 | 1526.8 | 185508 | 236196 | 114791256 | 22.0454 | 7.8622 | 2.05761 |
| 487 | 1530.0 | 186272 | 237169 | 115501303 | 22.0681 | 7.8676 | 2.05339 |
| 488 | 1533.1 | 187038 | 238144 | 116214272 | 22.0907 | 7.8730 | 2.04918 |
| 489 | 1536.2 | 187805 | 239121 | 116930169 | 22.1133 | 7.8784 | 2.04499 |
| **490** | **1539.4** | **188574** | **240100** | **117649000** | **22.1359** | **7.8837** | **2.04082** |
| 491 | 1542.5 | 189345 | 241081 | 118370771 | 22.1585 | 7.8891 | 2.03666 |
| 492 | 1545.7 | 190117 | 242064 | 119095488 | 22.1811 | 7.8944 | 2.03252 |
| 493 | 1548.8 | 190890 | 243049 | 119823157 | 22.2036 | 7.8998 | 2.02840 |
| 494 | 1551.9 | 191665 | 244036 | 120553784 | 22.2261 | 7.9051 | 2.02429 |
| **495** | **1555.1** | **192442** | **245025** | **121287375** | **22.2486** | **7.9105** | **2.02020** |
| 496 | 1558.2 | 193221 | 246016 | 122023936 | 22.2711 | 7.9158 | 2.01613 |
| 497 | 1561.4 | 194000 | 247009 | 122763473 | 22.2935 | 7.9211 | 2.01207 |
| 498 | 1564.5 | 194782 | 248004 | 123505992 | 22.3159 | 7.9264 | 2.00803 |
| 499 | 1567.7 | 195565 | 249001 | 124251499 | 22.3383 | 7.9317 | 2.00401 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **500** | **1570.8** | **196350** | **250000** | **125000000** | **22.3607** | **7.9370** | **2.00000** |
| 501 | 1573.9 | 197136 | 251001 | 125751501 | 22.3830 | 7.9423 | 1.99601 |
| 502 | 1577.1 | 197923 | 252004 | 126506008 | 22.4054 | 7.9476 | 1.99203 |
| 503 | 1580.2 | 198713 | 253009 | 127263527 | 22.4277 | 7.9528 | 1.98807 |
| 504 | 1583.4 | 199504 | 254016 | 128024064 | 22.4499 | 7.9581 | 1.98413 |
| **505** | **1586.5** | **200296** | **255025** | **128787625** | **22.4722** | **7.9634** | **1.98020** |
| 506 | 1589.7 | 201090 | 256036 | 129554216 | 22.4944 | 7.9686 | 1.97629 |
| 507 | 1592.8 | 201886 | 257049 | 130323843 | 22.5167 | 7.9739 | 1.97239 |
| 508 | 1595.9 | 202683 | 258064 | 131096512 | 22.5389 | 7.9791 | 1.96850 |
| 509 | 1599.1 | 203482 | 259081 | 131872229 | 22.5610 | 7.9843 | 1.96464 |
| **510** | **1602.2** | **204282** | **260100** | **132651000** | **22.5832** | **7.9896** | **1.96078** |
| 511 | 1605.4 | 205084 | 261121 | 133432831 | 22.6053 | 7.9948 | 1.95695 |
| 512 | 1608.5 | 205887 | 262144 | 134217728 | 22.6274 | 8.0000 | 1.95312 |
| 513 | 1611.6 | 206692 | 263169 | 135005697 | 22.6495 | 8.0052 | 1.94932 |
| 514 | 1614.8 | 207499 | 264196 | 135796744 | 22.6716 | 8.0104 | 1.94553 |
| **515** | **1617.9** | **208307** | **265225** | **136590875** | **22.6936** | **8.0156** | **1.94175** |
| 516 | 1621.1 | 209117 | 266256 | 137388096 | 22.7156 | 8.0208 | 1.93798 |
| 517 | 1624.2 | 209928 | 267289 | 138188413 | 22.7376 | 8.0260 | 1.93424 |
| 518 | 1627.3 | 210741 | 268324 | 138991832 | 22.7596 | 8.0311 | 1.93050 |
| 519 | 1630.5 | 211556 | 269361 | 139798359 | 22.7816 | 8.0363 | 1.92678 |
| **520** | **1633.6** | **212372** | **270400** | **140608000** | **22.8035** | **8.0415** | **1.92308** |
| 521 | 1636.8 | 213189 | 271441 | 141420761 | 22.8254 | 8.0466 | 1.91939 |
| 522 | 1639.9 | 214008 | 272484 | 142236648 | 22.8473 | 8.0517 | 1.91571 |
| 523 | 1643.1 | 214829 | 273529 | 143055667 | 22.8692 | 8.0569 | 1.91205 |
| 524 | 1646.2 | 215651 | 274576 | 143877824 | 22.8910 | 8.0620 | 1.90840 |
| **525** | **1649.3** | **216475** | **275625** | **144703125** | **22.9129** | **8.0671** | **1.90476** |
| 526 | 1652.5 | 217301 | 276676 | 145531576 | 22.9347 | 8.0723 | 1.90114 |
| 527 | 1655.6 | 218128 | 277729 | 146363183 | 22.9565 | 8.0774 | 1.89753 |
| 528 | 1658.8 | 218956 | 278784 | 147197952 | 22.9783 | 8.0825 | 1.89394 |
| 529 | 1661.9 | 219787 | 279841 | 148035889 | 23.0000 | 8.0876 | 1.89036 |
| **530** | **1665.0** | **220618** | **280900** | **148877000** | **23.0217** | **8.0927** | **1.88679** |
| 531 | 1668.2 | 221452 | 281961 | 149721291 | 23.0434 | 8.0978 | 1.88324 |
| 532 | 1671.3 | 222287 | 283024 | 150568768 | 23.0651 | 8.1028 | 1.87970 |
| 533 | 1674.5 | 223123 | 284089 | 151419437 | 23.0868 | 8.1079 | 1.87617 |
| 534 | 1677.6 | 223961 | 285156 | 152273304 | 23.1084 | 8.1130 | 1.87266 |
| **535** | **1680.8** | **224801** | **286225** | **153130375** | **23.1301** | **8.1180** | **1.86916** |
| 536 | 1683.9 | 225642 | 287296 | 153990656 | 23.1517 | 8.1231 | 1.86567 |
| 537 | 1687.0 | 226484 | 288369 | 154854153 | 23.1733 | 8.1281 | 1.86220 |
| 538 | 1690.2 | 227329 | 289444 | 155720872 | 23.1948 | 8.1332 | 1.85874 |
| 539 | 1693.3 | 228175 | 290521 | 156590819 | 23.2164 | 8.1382 | 1.85529 |
| **540** | **1696.5** | **229022** | **291600** | **157464000** | **23.2379** | **8.1433** | **1.85185** |
| 541 | 1699.6 | 229871 | 292681 | 158340421 | 23.2594 | 8.1483 | 1.84843 |
| 542 | 1702.7 | 230722 | 293764 | 159220088 | 23.2809 | 8.1533 | 1.84502 |
| 543 | 1705.9 | 231574 | 294849 | 160103007 | 23.3024 | 8.1583 | 1.84162 |
| 544 | 1709.0 | 232428 | 295936 | 160989184 | 23.3238 | 8.1633 | 1.83824 |
| **545** | **1712.2** | **233283** | **297025** | **161878625** | **23.3452** | **8.1683** | **1.83486** |
| 546 | 1715.3 | 234140 | 298116 | 162771336 | 23.3666 | 8.1733 | 1.83150 |
| 547 | 1718.5 | 234998 | 299209 | 163667323 | 23.3880 | 8.1783 | 1.82815 |
| 548 | 1721.6 | 235858 | 300304 | 164566592 | 23.4094 | 8.1833 | 1.82482 |
| 549 | 1724.7 | 236720 | 301401 | 165469149 | 23.4307 | 8.1882 | 1.82149 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **550** | **1727.9** | **237583** | **302500** | **166375000** | **23.4521** | **8.1932** | **1.81818** |
| 551 | 1731.0 | 238448 | 303601 | 167284151 | 23.4734 | 8.1982 | 1.81488 |
| 552 | 1734.2 | 239314 | 304704 | 168196608 | 23.4947 | 8.2031 | 1.81159 |
| 553 | 1737.3 | 240182 | 305809 | 169112377 | 23.5160 | 8.2081 | 1.80832 |
| 554 | 1740.4 | 241051 | 306916 | 170031464 | 23.5372 | 8.2130 | 1.80505 |
| **555** | **1743.6** | **241922** | **309025** | **170953875** | **23.5584** | **8.2180** | **1.80180** |
| 556 | 1746.7 | 242795 | 309136 | 171879616 | 23.5797 | 8.2229 | 1.79856 |
| 557 | 1749.9 | 243669 | 310249 | 172808693 | 23.6008 | 8.2278 | 1.79533 |
| 558 | 1753.0 | 244545 | 311364 | 173741112 | 23.6220 | 8.2327 | 1.79211 |
| 559 | 1756.2 | 245422 | 312481 | 174676879 | 23.6432 | 8.2377 | 1.78891 |
| **560** | **1759.3** | **246301** | **313600** | **175616000** | **23.6643** | **8.2426** | **1.78571** |
| 561 | 1762.4 | 247181 | 314721 | 176558481 | 23.6854 | 8.2475 | 1.78253 |
| 562 | 1765.6 | 248063 | 315844 | 177504328 | 23.7065 | 8.2524 | 1.77936 |
| 563 | 1768.7 | 248947 | 316969 | 178453547 | 23.7276 | 8.2573 | 1.77620 |
| 564 | 1771.9 | 249832 | 318096 | 179406144 | 23.7487 | 8.2621 | 1.77305 |
| **565** | **1775.0** | **250719** | **319225** | **180362125** | **23.7697** | **8.2670** | **1.76991** |
| 566 | 1778.1 | 251607 | 320356 | 181321496 | 23.7908 | 8.2719 | 1.76678 |
| 567 | 1781.3 | 252497 | 321489 | 182284263 | 23.8118 | 8.2768 | 1.76367 |
| 568 | 1784.4 | 253388 | 322624 | 183250432 | 23.8328 | 8.2816 | 1.76056 |
| 569 | 1787.6 | 254281 | 323761 | 184220009 | 23.8537 | 8.2865 | 1.75747 |
| **570** | **1790.7** | **255176** | **324900** | **185193000** | **23.8747** | **8.2913** | **1.75439** |
| 571 | 1793.9 | 256072 | 326041 | 186169411 | 23.8956 | 8.2962 | 1.75131 |
| 572 | 1797.0 | 256970 | 327184 | 187149248 | 23.9165 | 8.3010 | 1.74825 |
| 573 | 1800.1 | 257869 | 328329 | 188132517 | 23.9374 | 8.3059 | 1.74520 |
| 574 | 1803.3 | 258770 | 329476 | 189119224 | 23.9583 | 8.3107 | 1.74216 |
| **575** | **1806.4** | **259672** | **330625** | **190109375** | **23.9792** | **8.3155** | **1.73913** |
| 576 | 1809.6 | 260576 | 331776 | 191102976 | 24.0000 | 8.3203 | 1.73611 |
| 577 | 1812.7 | 261482 | 332929 | 192100033 | 24.0208 | 8.3251 | 1.73310 |
| 578 | 1815.8 | 262389 | 334084 | 193100552 | 24.0416 | 8.3300 | 1.73010 |
| 579 | 1819.0 | 263298 | 335241 | 194104539 | 24.0624 | 8.3348 | 1.72712 |
| **580** | **1822.1** | **264208** | **336400** | **195112000** | **24.0832** | **8.3396** | **1.72414** |
| 581 | 1825.3 | 265120 | 337561 | 196122941 | 24.1039 | 8.3443 | 1.72117 |
| 582 | 1828.4 | 266033 | 338724 | 197137368 | 24.1247 | 8.3491 | 1.71821 |
| 583 | 1831.6 | 266948 | 339889 | 198155287 | 24.1454 | 8.3539 | 1.71527 |
| 584 | 1834.7 | 267865 | 341056 | 199176704 | 24.1661 | 8.3587 | 1.71233 |
| **585** | **1837.8** | **268783** | **342225** | **200201625** | **24.1868** | **8.3634** | **1.70940** |
| 586 | 1841.0 | 269701 | 343396 | 201230056 | 24.2074 | 8.3682 | 1.70649 |
| 587 | 1844.1 | 270624 | 344569 | 202262003 | 24.2281 | 8.3730 | 1.70358 |
| 588 | 1847.3 | 271547 | 345744 | 203297472 | 24.2487 | 8.3777 | 1.70068 |
| 589 | 1850.4 | 272471 | 346921 | 204336469 | 24.2693 | 8.3825 | 1.69779 |
| **590** | **1853.5** | **273397** | **348100** | **205379000** | **24.2899** | **8.3872** | **1.69492** |
| 591 | 1856.7 | 274325 | 349281 | 206425071 | 24.3105 | 8.3919 | 1.69205 |
| 592 | 1859.8 | 275254 | 350464 | 207474688 | 24.3311 | 8.3967 | 1.68919 |
| 593 | 1863.0 | 276184 | 351649 | 208527857 | 24.3516 | 8.4014 | 1.68634 |
| 594 | 1866.1 | 277117 | 352836 | 209584584 | 24.3721 | 8.4061 | 1.68350 |
| **595** | **1869.3** | **278051** | **354025** | **210644875** | **24.3926** | **8.4108** | **1.68067** |
| 596 | 1872.4 | 278986 | 355216 | 211708736 | 24.4131 | 8.4155 | 1.67785 |
| 597 | 1875.5 | 279923 | 356409 | 212776173 | 24.4336 | 8.4202 | 1.67504 |
| 598 | 1878.7 | 280862 | 357604 | 213847192 | 24.4540 | 8.4249 | 1.67224 |
| 599 | 1881.8 | 281802 | 358801 | 214921799 | 24.4745 | 8.4296 | 1.66945 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **600** | **1885.0** | **282743** | **360000** | **216000000** | **24.4949** | **8.4343** | **1.66667** |
| 601 | 1888.1 | 283687 | 361201 | 217081801 | 24.5153 | 8.4390 | 1.66389 |
| 602 | 1891.2 | 284631 | 362404 | 218167208 | 24.5357 | 8.4437 | 1.66113 |
| 603 | 1894.4 | 285578 | 363609 | 219256227 | 24.5561 | 8.4484 | 1.65837 |
| 604 | 1897.5 | 286526 | 364816 | 220348864 | 24.5764 | 8.4530 | 1.65563 |
| **605** | **1900.7** | **287475** | **366025** | **221445125** | **24.5967** | **8.4577** | **1.65289** |
| 606 | 1903.8 | 288426 | 367236 | 222545016 | 24.6171 | 8.4623 | 1.65017 |
| 607 | 1907.0 | 289379 | 368449 | 223648543 | 24.6374 | 8.4670 | 1.64745 |
| 608 | 1910.1 | 290333 | 369664 | 224755712 | 24.6577 | 8.4716 | 1.64474 |
| 609 | 1913.2 | 291289 | 370881 | 225866529 | 24.6779 | 8.4763 | 1.64204 |
| **610** | **1916.4** | **292247** | **372100** | **226981000** | **24.6982** | **8.4809** | **1.63934** |
| 611 | 1919.5 | 293206 | 373321 | 228099131 | 24.7184 | 8.4856 | 1.63666 |
| 612 | 1922.7 | 294166 | 374544 | 229220928 | 24.7386 | 8.4902 | 1.63399 |
| 613 | 1925.8 | 295128 | 375769 | 230346397 | 24.7588 | 8.4948 | 1.63132 |
| 614 | 1928.9 | 296092 | 376996 | 231475544 | 24.7790 | 8.4994 | 1.62866 |
| **615** | **1932.1** | **297057** | **378225** | **232608375** | **24.7992** | **8.5040** | **1.62602** |
| 616 | 1935.2 | 298024 | 379456 | 233744896 | 24.8193 | 8.5086 | 1.62338 |
| 617 | 1938.4 | 298992 | 380689 | 234885113 | 24.8395 | 8.5132 | 1.62075 |
| 618 | 1941.5 | 299962 | 381924 | 236029032 | 24.8596 | 8.5178 | 1.61812 |
| 619 | 1944.7 | 300934 | 383161 | 237176659 | 24.8797 | 8.5224 | 1.61551 |
| **620** | **1947.8** | **301907** | **384400** | **238328000** | **24.8998** | **8.5270** | **1.61290** |
| 621 | 1950.9 | 302882 | 385641 | 239483061 | 24.9199 | 8.5316 | 1.61031 |
| 622 | 1954.1 | 303858 | 386884 | 240641848 | 24.9399 | 8.5362 | 1.60772 |
| 623 | 1957.2 | 304836 | 388129 | 241804367 | 24.9600 | 8.5408 | 1.60514 |
| 624 | 1960.4 | 305815 | 389376 | 242970624 | 24.9800 | 8.5453 | 1.60256 |
| **625** | **1963.5** | **306796** | **390625** | **244140625** | **25.0000** | **8.5499** | **1.60000** |
| 626 | 1966.6 | 307779 | 391876 | 245314376 | 25.0200 | 8.5544 | 1.59744 |
| 627 | 1969.8 | 308763 | 393129 | 246491883 | 25.0400 | 8.5590 | 1.59490 |
| 628 | 1972.9 | 309748 | 394384 | 247673152 | 25.0599 | 8.5635 | 1.59236 |
| 629 | 1976.1 | 310736 | 395641 | 248858189 | 25.0799 | 8.5681 | 1.58983 |
| **630** | **1979.2** | **311725** | **396900** | **250047000** | **25.0998** | **8.5726** | **1.58730** |
| 631 | 1982.4 | 312715 | 398161 | 251239591 | 25.1197 | 8.5772 | 1.58479 |
| 632 | 1985.5 | 313707 | 399424 | 252435968 | 25.1396 | 8.5817 | 1.58228 |
| 633 | 1988.6 | 314700 | 400689 | 253636137 | 25.1595 | 8.5862 | 1.57978 |
| 634 | 1991.8 | 315696 | 401956 | 254840104 | 25.1794 | 8.5907 | 1.57729 |
| **635** | **1994.9** | **316692** | **403225** | **256047875** | **25.1992** | **8.5952** | **1.57480** |
| 636 | 1998.1 | 317690 | 404496 | 257259456 | 25.2190 | 8.5997 | 1.57233 |
| 637 | 2001.2 | 318690 | 405769 | 258474853 | 25.2389 | 8.6043 | 1.56986 |
| 638 | 2004.3 | 319692 | 407044 | 259694072 | 25.2587 | 8.6088 | 1.56740 |
| 639 | 2007.5 | 320695 | 408321 | 260917119 | 25.2784 | 8.6132 | 1.56495 |
| **640** | **2010.6** | **321699** | **409600** | **262144000** | **25.2982** | **8.6177** | **1.56250** |
| 641 | 2013.8 | 322705 | 410881 | 263374721 | 25.3180 | 8.6222 | 1.56006 |
| 642 | 2016.9 | 323713 | 412164 | 264609288 | 25.3377 | 8.6267 | 1.55763 |
| 643 | 2020.0 | 324722 | 413449 | 265847707 | 25.3574 | 8.6312 | 1.55521 |
| 644 | 2023.2 | 325733 | 414736 | 267089984 | 25.3772 | 8.6357 | 1.55280 |
| **645** | **2026.3** | **326745** | **416025** | **268336125** | **25.3969** | **8.6401** | **1.55039** |
| 646 | 2029.5 | 327759 | 417316 | 269586136 | 25.4165 | 8.6446 | 1.54799 |
| 647 | 2032.6 | 328775 | 418609 | 270840023 | 25.4362 | 8.6490 | 1.54560 |
| 648 | 2035.8 | 329792 | 419904 | 272097792 | 25.4558 | 8.6535 | 1.54321 |
| 649 | 2038.9 | 330810 | 421201 | 273359449 | 25.4755 | 8.6579 | 1.54083 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **650** | **2042.0** | **331831** | **422500** | **274625000** | **25.4951** | **8.6624** | **1.53846** |
| 651 | 2045.2 | 332853 | 423801 | 275894451 | 25.5147 | 8.6668 | 1.53610 |
| 652 | 2048.3 | 333876 | 425104 | 277167808 | 25.5343 | 8.6713 | 1.53374 |
| 653 | 2051.5 | 334901 | 426409 | 278445077 | 25.5539 | 8.6757 | 1.53139 |
| 654 | 2054.6 | 335927 | 427716 | 279726264 | 25.5734 | 8.6801 | 1.52905 |
| **655** | **2057.7** | **336955** | **429025** | **281011375** | **25.5930** | **8.6845** | **1.52672** |
| 656 | 2060.9 | 337985 | 430336 | 282300416 | 25.6125 | 8.6890 | 1.52439 |
| 657 | 2064.0 | 339016 | 431649 | 283593393 | 25.6320 | 8.6934 | 1.52207 |
| 658 | 2067.2 | 340049 | 432964 | 284890312 | 25.6515 | 8.6978 | 1.51976 |
| 659 | 2070.3 | 341084 | 434281 | 286191179 | 25.6710 | 8.7022 | 1.51745 |
| **660** | **2073.5** | **342119** | **435600** | **287496000** | **25.6905** | **8.7066** | **1.51515** |
| 661 | 2076.6 | 343157 | 436921 | 288804781 | 25.7099 | 8.7110 | 1.51286 |
| 662 | 2079.7 | 344196 | 438244 | 290117528 | 25.7294 | 8.7154 | 1.51057 |
| 663 | 2082.9 | 345237 | 439569 | 291434247 | 25.7488 | 8.7198 | 1.50830 |
| 664 | 2086.0 | 346279 | 440896 | 292754944 | 25.7682 | 8.7241 | 1.50602 |
| **665** | **2089.2** | **347323** | **442225** | **294079625** | **25.7876** | **8.7285** | **1.50376** |
| 666 | 2092.3 | 348368 | 443556 | 295408296 | 25.8070 | 8.7329 | 1.50150 |
| 667 | 2095.4 | 349415 | 444889 | 296740963 | 25.8263 | 8.7373 | 1.49925 |
| 668 | 2098.6 | 350464 | 446224 | 298077632 | 25.8457 | 8.7416 | 1.49701 |
| 669 | 2101.7 | 351514 | 447561 | 299418309 | 25.8650 | 8.7460 | 1.49477 |
| **670** | **2104.9** | **352565** | **448900** | **300763000** | **25.8844** | **8.7503** | **1.49254** |
| 671 | 2108.0 | 353618 | 450241 | 302111711 | 25.9037 | 8.7547 | 1.49031 |
| 672 | 2111.2 | 354673 | 451584 | 303464448 | 25.9230 | 8.7590 | 1.48810 |
| 673 | 2114.3 | 355730 | 452929 | 304821217 | 25.9422 | 8.7634 | 1.48588 |
| 674 | 2117.4 | 356788 | 454276 | 306182024 | 25.9615 | 8.7677 | 1.48368 |
| **675** | **2120.6** | **357847** | **455625** | **307546875** | **25.9808** | **8.7721** | **1.48148** |
| 676 | 2123.7 | 358908 | 456976 | 308915776 | 26.0000 | 8.7764 | 1.47929 |
| 677 | 2126.9 | 359971 | 458329 | 310288733 | 26.0192 | 8.7807 | 1.47711 |
| 678 | 2130.0 | 361035 | 459684 | 311665752 | 26.0384 | 8.7850 | 1.47493 |
| 679 | 2133.1 | 362101 | 461041 | 313046839 | 26.0576 | 8.7893 | 1.47275 |
| **680** | **2136.3** | **363168** | **462400** | **314432000** | **26.0768** | **8.7937** | **1.47059** |
| 681 | 2139.4 | 364237 | 463761 | 315821241 | 26.0960 | 8.7980 | 1.46843 |
| 682 | 2142.6 | 365308 | 465124 | 317214568 | 26.1151 | 8.8023 | 1.46628 |
| 683 | 2145.7 | 366380 | 466489 | 318611987 | 26.1343 | 8.8066 | 1.46413 |
| 684 | 2148.9 | 367453 | 467856 | 320013504 | 26.1534 | 8.8109 | 1.46199 |
| **685** | **2152.0** | **368528** | **469225** | **321419125** | **26.1725** | **8.8152** | **1.45985** |
| 686 | 2155.1 | 369605 | 470596 | 322828856 | 26.1916 | 8.8194 | 1.45773 |
| 687 | 2158.3 | 370684 | 471969 | 324242703 | 26.2107 | 8.8237 | 1.45560 |
| 688 | 2161.4 | 371764 | 473344 | 325660672 | 26.2298 | 8.8280 | 1.45349 |
| 689 | 2164.6 | 372845 | 474721 | 327082769 | 26.2488 | 8.8323 | 1.45138 |
| **690** | **2167.7** | **373928** | **476100** | **328509000** | **26.2679** | **8.8366** | **1.44928** |
| 691 | 2170.8 | 375013 | 477481 | 329939371 | 26.2869 | 8.8408 | 1.44718 |
| 692 | 2174.0 | 376099 | 478864 | 331373888 | 26.3059 | 8.8451 | 1.44509 |
| 693 | 2177.1 | 377187 | 480249 | 332812557 | 26.3249 | 8.8493 | 1.44300 |
| 694 | 2180.3 | 378276 | 481636 | 334255384 | 26.3439 | 8.8536 | 1.44092 |
| **695** | **2183.4** | **379367** | **483025** | **335702375** | **26.3629** | **8.8578** | **1.43885** |
| 696 | 2186.6 | 380459 | 484416 | 337153536 | 26.3818 | 8.8621 | 1.43678 |
| 697 | 2189.7 | 381554 | 485809 | 338608873 | 26.4008 | 8.8663 | 1.43472 |
| 698 | 2192.8 | 382649 | 487204 | 340068392 | 26.4197 | 8.8706 | 1.43267 |
| 699 | 2196.0 | 383746 | 488601 | 341532099 | 26.4386 | 8.8748 | 1.43062 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 ⁄ Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **700** | **2199.1** | **384845** | **490000** | **343000000** | **26.4575** | **8.8790** | **1.42857** |
| 701 | 2202.3 | 385945 | 491401 | 344472101 | 26.4764 | 8.8833 | 1.42653 |
| 702 | 2205.4 | 387047 | 492804 | 345948408 | 26.4953 | 8.8875 | 1.42450 |
| 703 | 2208.5 | 388151 | 494209 | 347428927 | 26.5141 | 8.8917 | 1.42248 |
| 704 | 2211.7 | 389256 | 495616 | 348913664 | 26.5330 | 8.8959 | 1.42046 |
| **705** | **2214.8** | **390363** | **497025** | **350402625** | **26.5518** | **8.9001** | **1.41844** |
| 706 | 2218.0 | 391471 | 498436 | 351895816 | 26.5707 | 8.9043 | 1.41643 |
| 707 | 2221.1 | 392580 | 499849 | 353393243 | 26.5895 | 8.9085 | 1.41443 |
| 708 | 2224.3 | 393692 | 501264 | 354894912 | 26.6083 | 8.9127 | 1.41243 |
| 709 | 2227.4 | 394805 | 502681 | 356400829 | 26.6271 | 8.9169 | 1.41044 |
| **710** | **2230.5** | **395919** | **504100** | **357911000** | **26.6458** | **8.9211** | **1.40845** |
| 711 | 2233.7 | 397035 | 505521 | 359425431 | 26.6646 | 8.9253 | 1.40647 |
| 712 | 2236.8 | 398153 | 506944 | 360944128 | 26.6833 | 8.9295 | 1.40449 |
| 713 | 2240.0 | 399272 | 508369 | 362467097 | 26.7021 | 8.9337 | 1.40253 |
| 714 | 2243.1 | 400393 | 509796 | 363994344 | 26.7208 | 8.9378 | 1.40056 |
| **715** | **2246.2** | **401515** | **511225** | **365525875** | **26.7395** | **8.9420** | **1.39860** |
| 716 | 2249.4 | 402639 | 512656 | 367061696 | 26.7582 | 8.9462 | 1.39665 |
| 717 | 2252.5 | 403765 | 514089 | 368601813 | 26.7769 | 8.9503 | 1.39470 |
| 718 | 2255.7 | 404892 | 515524 | 370146232 | 26.7955 | 8.9545 | 1.39276 |
| 719 | 2258.8 | 406020 | 516961 | 371694959 | 26.8142 | 8.9587 | 1.39082 |
| **720** | **2261.9** | **407150** | **518400** | **373248000** | **26.8328** | **8.9628** | **1.38889** |
| 721 | 2265.1 | 408282 | 519841 | 374805361 | 26.8514 | 8.9670 | 1.38696 |
| 722 | 2268.2 | 409416 | 521284 | 376367048 | 26.8701 | 8.9711 | 1.38504 |
| 723 | 2271.4 | 410550 | 522729 | 377933067 | 26.8887 | 8.9752 | 1.38313 |
| 724 | 2274.5 | 411687 | 524176 | 379503424 | 26.9072 | 8.9794 | 1.38122 |
| **725** | **2277.7** | **412825** | **525625** | **381078125** | **26.9258** | **8.9835** | **1.37931** |
| 726 | 2280.8 | 413965 | 527076 | 382657176 | 26.9444 | 8.9876 | 1.37741 |
| 727 | 2283.9 | 415106 | 528529 | 384240583 | 26.9629 | 8.9918 | 1.37552 |
| 728 | 2287.1 | 416248 | 529984 | 385828352 | 26.9815 | 8.9959 | 1.37363 |
| 729 | 2290.2 | 417393 | 531441 | 387420489 | 27.0000 | 9.0000 | 1.37174 |
| **730** | **2293.4** | **418539** | **532900** | **389017000** | **27.0185** | **9.0041** | **1.36986** |
| 731 | 2296.5 | 419686 | 534361 | 390617891 | 27.0370 | 9.0082 | 1.36799 |
| 732 | 2299.7 | 420835 | 535824 | 392223168 | 27.0555 | 9.0123 | 1.36612 |
| 733 | 2302.8 | 421986 | 537289 | 393832837 | 27.0740 | 9.0164 | 1.36426 |
| 734 | 2305.9 | 423138 | 538756 | 395446904 | 27.0924 | 9.0205 | 1.36240 |
| **735** | **2309.1** | **424293** | **540225** | **397065375** | **27.1109** | **9.0246** | **1.36054** |
| 736 | 2312.2 | 425448 | 541696 | 398688256 | 27.1293 | 9.0287 | 1.35870 |
| 737 | 2315.4 | 426604 | 543169 | 400315553 | 27.1477 | 9.0328 | 1.35685 |
| 738 | 2318.5 | 427762 | 544644 | 401947272 | 27.1662 | 9.0369 | 1.35501 |
| 739 | 2321.6 | 428922 | 546121 | 403583419 | 27.1846 | 9.0410 | 1.35318 |
| **740** | **2324.8** | **430084** | **547600** | **405224000** | **27.2029** | **9.0450** | **1.35135** |
| 741 | 2327.9 | 431247 | 549081 | 406869021 | 27.2213 | 9.0491 | 1.34953 |
| 742 | 2331.1 | 432412 | 550564 | 408518488 | 27.2397 | 9.0532 | 1.34771 |
| 743 | 2334.2 | 433578 | 552049 | 410172407 | 27.2580 | 9.0572 | 1.34590 |
| 744 | 2337.3 | 434746 | 553536 | 411830784 | 27.2764 | 9.0613 | 1.34409 |
| **745** | **2340.5** | **435915** | **555025** | **413493625** | **27.2947** | **9.0654** | **1.34228** |
| 746 | 2343.6 | 437087 | 556516 | 415160936 | 27.3130 | 9.0694 | 1.34048 |
| 747 | 2346.8 | 438259 | 558009 | 416832723 | 27.3313 | 9.0735 | 1.33869 |
| 748 | 2349.9 | 439433 | 559504 | 418508992 | 27.3496 | 9.0775 | 1.33690 |
| 749 | 2353.1 | 440609 | 561001 | 420189749 | 27.3679 | 9.0816 | 1.33511 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **750** | **2356.2** | **441786** | **562500** | **421875000** | **27.3861** | **9.0856** | **1.33333** |
| 751 | 2359.3 | 442965 | 564001 | 423564751 | 27.4044 | 9.0896 | 1.33156 |
| 752 | 2362.5 | 444146 | 565504 | 425259008 | 27.4226 | 9.0937 | 1.32979 |
| 753 | 2365.6 | 445328 | 567009 | 426957777 | 27.4408 | 9.0977 | 1.32802 |
| 754 | 2368.8 | 446511 | 568516 | 428661064 | 27.4591 | 9.1017 | 1.32626 |
| **755** | **2371.9** | **447697** | **570025** | **430368875** | **27.4773** | **9.1057** | **1.32450** |
| 756 | 2375.0 | 448883 | 571536 | 432081216 | 27.4955 | 9.1098 | 1.32275 |
| 757 | 2378.2 | 450072 | 573049 | 433798093 | 27.5136 | 9.1138 | 1.32100 |
| 758 | 2381.3 | 451262 | 574564 | 435519512 | 27.5318 | 9.1178 | 1.31926 |
| 759 | 2384.5 | 452453 | 576081 | 437245479 | 27.5500 | 9.1218 | 1.31752 |
| **760** | **2387.6** | **453646** | **577600** | **438976000** | **27.5681** | **9.1258** | **1.31579** |
| 761 | 2390.8 | 454841 | 579121 | 440711081 | 27.5862 | 9.1298 | 1.31406 |
| 762 | 2393.9 | 456037 | 580644 | 442450728 | 27.6043 | 9.1338 | 1.31234 |
| 763 | 2397.0 | 457234 | 582169 | 444194947 | 27.6225 | 9.1378 | 1.31062 |
| 764 | 2400.2 | 458434 | 583696 | 445943744 | 27.6405 | 9.1418 | 1.30890 |
| **765** | **2403.3** | **459635** | **585225** | **447697125** | **27.6586** | **9.1458** | **1.30719** |
| 766 | 2406.5 | 460837 | 586756 | 449455096 | 27.6767 | 9.1498 | 1.30548 |
| 767 | 2409.6 | 462042 | 588289 | 451217663 | 27.6948 | 9.1537 | 1.30378 |
| 768 | 2412.7 | 463247 | 589824 | 452984832 | 27.7128 | 9.1577 | 1.30208 |
| 769 | 2415.9 | 464454 | 591361 | 454756609 | 27.7308 | 9.1617 | 1.30039 |
| **770** | **2419.0** | **465663** | **592900** | **456533000** | **27.7489** | **9.1657** | **1.29870** |
| 771 | 2422.2 | 466873 | 594441 | 458314011 | 27.7669 | 9.1696 | 1.29702 |
| 772 | 2425.3 | 468085 | 595984 | 460099648 | 27.7849 | 9.1736 | 1.29534 |
| 773 | 2428.5 | 469298 | 597529 | 461889917 | 27.8029 | 9.1775 | 1.29366 |
| 774 | 2431.6 | 470513 | 599076 | 463684824 | 27.8209 | 9.1815 | 1.29199 |
| **775** | **2434.7** | **471730** | **600625** | **465484375** | **27.8388** | **9.1855** | **1.29032** |
| 776 | 2437.9 | 472948 | 602176 | 467288576 | 27.8568 | 9.1894 | 1.28866 |
| 777 | 2441.0 | 474168 | 603729 | 469097433 | 27.8747 | 9.1933 | 1.28700 |
| 778 | 2444.2 | 475389 | 605284 | 470910952 | 27.8927 | 9.1973 | 1.28535 |
| 779 | 2447.3 | 476612 | 606841 | 472729139 | 27.9106 | 9.2012 | 1.28370 |
| **780** | **2450.4** | **477836** | **608400** | **474552000** | **27.9285** | **9.2052** | **1.28205** |
| 781 | 2453.6 | 479062 | 609961 | 476379541 | 27.9464 | 9.2091 | 1.28041 |
| 782 | 2456.7 | 480290 | 611524 | 478211768 | 27.9643 | 9.2130 | 1.27877 |
| 783 | 2459.9 | 481519 | 613089 | 480048687 | 27.9821 | 9.2170 | 1.27714 |
| 784 | 2463.0 | 482750 | 614656 | 481890304 | 28.0000 | 9.2209 | 1.27551 |
| **785** | **2466.2** | **483982** | **616225** | **483736625** | **28.0179** | **9.2248** | **1.27389** |
| 786 | 2469.3 | 485216 | 617796 | 485587656 | 28.0357 | 9.2287 | 1.27226 |
| 787 | 2472.4 | 486451 | 619369 | 487443403 | 28.0535 | 9.2326 | 1.27065 |
| 788 | 2475.6 | 487688 | 620944 | 489303872 | 28.0713 | 9.2365 | 1.26904 |
| 789 | 2478.7 | 488927 | 622521 | 491169069 | 28.0891 | 9.2404 | 1.26743 |
| **790** | **2481.9** | **490167** | **624100** | **493039000** | **28.1069** | **9.2443** | **1.26582** |
| 791 | 2485.0 | 491409 | 625681 | 494913671 | 28.1247 | 9.2482 | 1.26422 |
| 792 | 2488.1 | 492652 | 627264 | 496793088 | 28.1425 | 9.2521 | 1.26263 |
| 793 | 2491.3 | 493897 | 628849 | 498677257 | 28.1603 | 9.2560 | 1.26103 |
| 794 | 2494.4 | 495143 | 630436 | 500566184 | 28.1780 | 9.2599 | 1.25945 |
| **795** | **2497.6** | **496391** | **632025** | **502459875** | **28.1957** | **9.2638** | **1.25786** |
| 796 | 2500.7 | 497641 | 633616 | 504358336 | 28.2135 | 9.2677 | 1.25628 |
| 797 | 2503.8 | 498892 | 635209 | 506261573 | 28.2312 | 9.2716 | 1.25471 |
| 798 | 2507.0 | 500145 | 636804 | 508169592 | 28.2489 | 9.2754 | 1.25313 |
| 799 | 2510.1 | 501399 | 638401 | 510082399 | 28.2666 | 9.2793 | 1.25156 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **800** | **2513.3** | **502655** | **640000** | **512000000** | **28.2843** | **9.2832** | **1.25000** |
| 801 | 2516.4 | 503912 | 641601 | 513922401 | 28.3019 | 9.2870 | 1.24844 |
| 802 | 2519.6 | 505171 | 643204 | 515849608 | 28.3196 | 9.2909 | 1.24688 |
| 803 | 2522.7 | 506432 | 644809 | 517781627 | 28.3373 | 9.2948 | 1.24533 |
| 804 | 2525.8 | 507694 | 646416 | 519718464 | 28.3549 | 9.2986 | 1.24378 |
| **805** | **2529.0** | **508958** | **648025** | **521660125** | **28.3725** | **9.3025** | **1.24224** |
| 806 | 2532.1 | 510223 | 649636 | 523606616 | 28.3901 | 9.3063 | 1.24069 |
| 807 | 2535.3 | 511490 | 651249 | 525557943 | 28.4077 | 9.3102 | 1.23916 |
| 808 | 2538.4 | 512758 | 652864 | 527514112 | 28.4253 | 9.3140 | 1.23762 |
| 809 | 2541.5 | 514028 | 654481 | 529475129 | 28.4429 | 9.3179 | 1.23609 |
| **810** | **2544.7** | **515300** | **656100** | **531441000** | **28.4605** | **9.3217** | **1.23457** |
| 811 | 2547.8 | 516573 | 657721 | 533411731 | 28.4781 | 9.3255 | 1.23305 |
| 812 | 2551.0 | 517848 | 659344 | 535387328 | 28.4956 | 9.3294 | 1.23153 |
| 813 | 2554.1 | 519124 | 660969 | 537367797 | 28.5132 | 9.3332 | 1.23001 |
| 814 | 2557.3 | 520402 | 662596 | 539353144 | 28.5307 | 9.3370 | 1.22850 |
| **815** | **2560.4** | **521681** | **664225** | **541343375** | **28.5482** | **9.3408** | **1.22699** |
| 816 | 2563.5 | 522962 | 665856 | 543338496 | 28.5657 | 9.3447 | 1.22549 |
| 817 | 2566.7 | 524245 | 667489 | 545338513 | 28.5832 | 9.3485 | 1.22399 |
| 818 | 2569.8 | 525529 | 669124 | 547343432 | 28.6007 | 9.3523 | 1.22249 |
| 819 | 2573.0 | 526814 | 670761 | 549353259 | 28.6182 | 9.3561 | 1.22100 |
| **820** | **2576.1** | **528102** | **672400** | **551368000** | **28.6356** | **9.3599** | **1.21951** |
| 821 | 2579.2 | 529391 | 674041 | 553387661 | 28.6531 | 9.3637 | 1.21803 |
| 822 | 2582.4 | 530681 | 675684 | 555412248 | 28.6705 | 9.3675 | 1.21655 |
| 823 | 2585.5 | 531973 | 677329 | 557441767 | 28.6880 | 9.3713 | 1.21507 |
| 824 | 2588.7 | 533267 | 678976 | 559476224 | 28.7054 | 9.3751 | 1.21359 |
| **825** | **2591.8** | **534562** | **680625** | **561515625** | **28.7228** | **9.3789** | **1.21212** |
| 826 | 2595.0 | 535858 | 682276 | 563559976 | 28.7402 | 9.3827 | 1.21065 |
| 827 | 2598.1 | 537157 | 683929 | 565609283 | 28.7576 | 9.3865 | 1.20919 |
| 828 | 2601.2 | 538456 | 685584 | 567663552 | 28.7750 | 9.3902 | 1.20773 |
| 829 | 2604.4 | 539758 | 687241 | 569722789 | 28.7924 | 9.3940 | 1.20627 |
| **830** | **2607.5** | **541061** | **688900** | **571787000** | **28.8097** | **9.3978** | **1.20482** |
| 831 | 2610.7 | 542365 | 690561 | 573856191 | 28.8271 | 9.4016 | 1.20337 |
| 832 | 2613.8 | 543671 | 692224 | 575930368 | 28.8444 | 9.4053 | 1.20192 |
| 833 | 2616.9 | 544979 | 693889 | 578009537 | 28.8617 | 9.4091 | 1.20048 |
| 834 | 2620.1 | 546288 | 695556 | 580093704 | 28.8791 | 9.4129 | 1.19904 |
| **835** | **2623.2** | **547599** | **697225** | **582182875** | **28.8964** | **9.4166** | **1.19760** |
| 836 | 2626.4 | 548912 | 698896 | 584277056 | 28.9137 | 9.4204 | 1.19617 |
| 837 | 2629.5 | 550226 | 700569 | 586376253 | 28.9310 | 9.4241 | 1.19474 |
| 838 | 2632.7 | 551541 | 702244 | 588480472 | 28.9482 | 9.4279 | 1.19332 |
| 839 | 2635.8 | 552858 | 703921 | 590589719 | 28.9655 | 9.4316 | 1.19189 |
| **840** | **2638.9** | **554177** | **705600** | **592704000** | **28.9828** | **9.4354** | **1.19048** |
| 841 | 2642.1 | 555497 | 707281 | 594823321 | 29.0000 | 9.4391 | 1.18906 |
| 842 | 2645.2 | 556819 | 708964 | 596947688 | 29.0172 | 9.4429 | 1.18765 |
| 843 | 2648.4 | 558142 | 710649 | 599077107 | 29.0345 | 9.4466 | 1.18624 |
| 844 | 2651.5 | 559467 | 712336 | 601211584 | 29.0517 | 9.4503 | 1.18483 |
| **845** | **2654.6** | **560794** | **714025** | **603351125** | **29.0689** | **9.4541** | **1.18343** |
| 846 | 2657.8 | 562122 | 715716 | 605495736 | 29.0861 | 9.4578 | 1.18203 |
| 847 | 2660.9 | 563452 | 717409 | 607645423 | 29.1033 | 9.4615 | 1.18064 |
| 848 | 2664.1 | 564783 | 719104 | 609800192 | 29.1204 | 9.4652 | 1.17925 |
| 849 | 2667.2 | 566116 | 720801 | 611960049 | 29.1376 | 9.4690 | 1.17786 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **850** | **2670.4** | **567450** | **722500** | **614125000** | **29.1548** | **9.4727** | **1.17647** |
| 851 | 2673.5 | 568786 | 724201 | 616295051 | 29.1719 | 9.4764 | 1.17509 |
| 852 | 2676.6 | 570124 | 725904 | 618470208 | 29.1890 | 9.4801 | 1.17371 |
| 853 | 2679.8 | 571463 | 727609 | 620650477 | 29.2062 | 9.4838 | 1.17233 |
| 854 | 2682.9 | 572803 | 729316 | 622835864 | 29.2233 | 9.4875 | 1.17096 |
| **855** | **2686.1** | **574146** | **731025** | **625026375** | **29.2404** | **9.4912** | **1.16959** |
| 856 | 2689.2 | 575490 | 732736 | 627222016 | 29.2575 | 9.4949 | 1.16822 |
| 857 | 2692.3 | 576835 | 734449 | 629422793 | 29.2746 | 9.4986 | 1.16686 |
| 858 | 2695.5 | 578182 | 736164 | 631628712 | 29.2916 | 9.5023 | 1.16550 |
| 859 | 2698.6 | 579530 | 737881 | 633839779 | 29.3087 | 9.5060 | 1.16414 |
| **860** | **2701.8** | **580880** | **739600** | **636056000** | **29.3258** | **9.5097** | **1.16279** |
| 861 | 2704.9 | 582232 | 741321 | 638277381 | 29.3428 | 9.5134 | 1.16144 |
| 862 | 2708.1 | 583585 | 743044 | 640503928 | 29.3598 | 9.5171 | 1.16009 |
| 863 | 2711.2 | 584940 | 744769 | 642735647 | 29.3769 | 9.5207 | 1.15875 |
| 864 | 2714.3 | 586297 | 746496 | 644972544 | 29.3939 | 9.5244 | 1.15741 |
| **865** | **2717.5** | **587655** | **748225** | **647214625** | **29.4109** | **9.5281** | **1.15607** |
| 866 | 2720.6 | 589014 | 749956 | 649461896 | 29.4279 | 9.5317 | 1.15473 |
| 867 | 2723.8 | 590375 | 751689 | 651714363 | 29.4449 | 9.5354 | 1.15340 |
| 868 | 2726.9 | 591738 | 753424 | 653972032 | 29.4618 | 9.5391 | 1.15207 |
| 869 | 2730.0 | 593102 | 755161 | 656234909 | 29.4788 | 9.5427 | 1.15075 |
| **870** | **2733.2** | **594468** | **756900** | **658503000** | **29.4958** | **9.5464** | **1.14943** |
| 871 | 2736.3 | 595835 | 758641 | 660776311 | 29.5127 | 9.5501 | 1.14811 |
| 872 | 2739.5 | 597204 | 760384 | 663054848 | 29.5296 | 9.5537 | 1.14679 |
| 873 | 2742.6 | 598575 | 762129 | 665338617 | 29.5466 | 9.5574 | 1.14548 |
| 874 | 2745.8 | 599947 | 763876 | 667627624 | 29.5635 | 9.5610 | 1.14416 |
| **875** | **2748.9** | **601320** | **765625** | **669921875** | **29.5804** | **9.5647** | **1.14286** |
| 876 | 2752.0 | 602696 | 767376 | 672221376 | 29.5973 | 9.5683 | 1.14155 |
| 877 | 2755.2 | 604073 | 769129 | 674526133 | 29.6142 | 9.5719 | 1.14025 |
| 878 | 2758.3 | 605451 | 770884 | 676836152 | 29.6311 | 9.5756 | 1.13895 |
| 879 | 2761.5 | 606831 | 772641 | 679151439 | 29.6479 | 9.5792 | 1.13766 |
| **880** | **2764.6** | **608212** | **774400** | **681472000** | **29.6648** | **9.5828** | **1.13636** |
| 881 | 2767.7 | 609595 | 776161 | 683797841 | 29.6816 | 9.5865 | 1.13507 |
| 882 | 2770.9 | 610980 | 777924 | 686128968 | 29.6985 | 9.5901 | 1.13379 |
| 883 | 2774.0 | 612366 | 779689 | 688465387 | 29.7153 | 9.5937 | 1.13250 |
| 884 | 2777.2 | 613754 | 781456 | 690807104 | 29.7321 | 9.5973 | 1.13122 |
| **885** | **2780.3** | **615143** | **783225** | **693154125** | **29.7489** | **9.6010** | **1.12994** |
| 886 | 2783.5 | 616534 | 784996 | 695506456 | 29.7658 | 9.6046 | 1.12867 |
| 887 | 2786.6 | 617927 | 786769 | 697864103 | 29.7825 | 9.6082 | 1.12740 |
| 888 | 2789.7 | 619321 | 788544 | 700227072 | 29.7993 | 9.6118 | 1.12613 |
| 889 | 2792.9 | 620717 | 790321 | 702595369 | 29.8161 | 9.6154 | 1.12486 |
| **890** | **2796.0** | **622114** | **792100** | **704969000** | **29.8329** | **9.6190** | **1.12360** |
| 891 | 2799.2 | 623513 | 793881 | 707347971 | 29.8496 | 9.6226 | 1.12233 |
| 892 | 2802.3 | 624913 | 795664 | 709732288 | 29.8664 | 9.6262 | 1.12108 |
| 893 | 2805.4 | 626315 | 797449 | 712121957 | 29.8831 | 9.6298 | 1.11982 |
| 894 | 2808.6 | 627718 | 799236 | 714516984 | 29.8998 | 9.6334 | 1.11857 |
| **895** | **2811.7** | **629124** | **801025** | **716917375** | **29.9166** | **9.6370** | **1.11732** |
| 896 | 2814.9 | 630530 | 802816 | 719323136 | 29.9333 | 9.6406 | 1.11607 |
| 897 | 2818.0 | 631938 | 804609 | 721734273 | 29.9500 | 9.6442 | 1.11483 |
| 898 | 2821.2 | 633348 | 806404 | 724150792 | 29.9666 | 9.6477 | 1.11359 |
| 899 | 2824.3 | 634760 | 808201 | 726572699 | 29.9833 | 9.6513 | 1.11235 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **900** | **2827.4** | **636173** | **810000** | **729000000** | **30.0000** | **9.6549** | **1.11111** |
| 901 | 2830.6 | 637587 | 811801 | 731432701 | 30.0167 | 9.6585 | 1.10988 |
| 902 | 2833.7 | 639003 | 813604 | 733870808 | 30.0333 | 9.6620 | 1.10865 |
| 903 | 2836.9 | 640421 | 815409 | 736314327 | 30.0500 | 9.6656 | 1.10742 |
| 904 | 2840.0 | 641840 | 817216 | 738763264 | 30.0666 | 9.6692 | 1.10619 |
| **905** | **2843.1** | **643261** | **819025** | **741217625** | **30.0832** | **9.6727** | **1.10497** |
| 906 | 2846.3 | 644683 | 820836 | 743677416 | 30.0998 | 9.6763 | 1.10375 |
| 907 | 2849.4 | 646107 | 822649 | 746142643 | 30.1164 | 9.6799 | 1.10254 |
| 908 | 2852.6 | 647533 | 824464 | 748613312 | 30.1330 | 9.6834 | 1.10132 |
| 909 | 2855.7 | 648960 | 826281 | 751089429 | 30.1496 | 9.6870 | 1.10011 |
| **910** | **2858.8** | **650388** | **828100** | **753571000** | **30.1662** | **9.6905** | **1.09890** |
| 911 | 2862.0 | 651818 | 829921 | 756058031 | 30.1828 | 9.6941 | 1.09769 |
| 912 | 2865.1 | 653250 | 831744 | 758550528 | 30.1993 | 9.6976 | 1.09649 |
| 913 | 2868.3 | 654684 | 833569 | 761048497 | 30.2159 | 9.7012 | 1.09529 |
| 914 | 2871.4 | 656118 | 835396 | 763551944 | 30.2324 | 9.7047 | 1.09409 |
| **915** | **2874.6** | **657555** | **837225** | **766060875** | **30.2490** | **9.7082** | **1.09290** |
| 916 | 2877.7 | 658993 | 839056 | 768575296 | 30.2655 | 9.7118 | 1.09170 |
| 917 | 2880.8 | 660433 | 840889 | 771095213 | 30.2820 | 9.7153 | 1.09051 |
| 918 | 2884.0 | 661874 | 842724 | 773620632 | 30.2985 | 9.7188 | 1.08932 |
| 919 | 2887.1 | 663317 | 844561 | 776151559 | 30.3150 | 9.7224 | 1.08814 |
| **920** | **2890.3** | **664761** | **846400** | **778688000** | **30.3315** | **9.7259** | **1.08696** |
| 921 | 2893.4 | 666207 | 848241 | 781229961 | 30.3480 | 9.7294 | 1.08578 |
| 922 | 2896.5 | 667654 | 850084 | 783777448 | 30.3645 | 9.7329 | 1.08460 |
| 923 | 2899.7 | 669103 | 851929 | 786330467 | 30.3809 | 9.7364 | 1.08342 |
| 924 | 2902.8 | 670554 | 853776 | 788889024 | 30.3974 | 9.7400 | 1.08225 |
| **925** | **2906.0** | **672005** | **855625** | **791453125** | **30.4138** | **9.7435** | **1.08108** |
| 926 | 2909.1 | 673460 | 857476 | 794022776 | 30.4302 | 9.7470 | 1.07991 |
| 927 | 2912.3 | 674915 | 859329 | 796597983 | 30.4467 | 9.7505 | 1.07875 |
| 928 | 2915.4 | 676372 | 861184 | 799178752 | 30.4631 | 9.7540 | 1.07759 |
| 929 | 2918.5 | 677831 | 863041 | 801765089 | 30.4795 | 9.7575 | 1.07643 |
| **930** | **2921.7** | **679291** | **864900** | **804357000** | **30.4959** | **9.7610** | **1.07527** |
| 931 | 2924.8 | 680752 | 866761 | 806954491 | 30.5123 | 9.7645 | 1.07411 |
| 932 | 2928.0 | 682216 | 868624 | 809557568 | 30.5287 | 9.7680 | 1.07296 |
| 933 | 2931.1 | 683680 | 870489 | 812166237 | 30.5450 | 9.7715 | 1.07181 |
| 934 | 2934.2 | 685147 | 872356 | 814780504 | 30.5614 | 9.7750 | 1.07066 |
| **935** | **2937.4** | **686615** | **874225** | **817400375** | **30.5778** | **9.7785** | **1.06952** |
| 936 | 2940.5 | 688084 | 876096 | 820025856 | 30.5941 | 9.7819 | 1.06838 |
| 937 | 2943.7 | 689555 | 877969 | 822656953 | 30.6105 | 9.7854 | 1.06724 |
| 938 | 2946.8 | 691028 | 879844 | 825293672 | 30.6268 | 9.7889 | 1.06610 |
| 939 | 2950.0 | 692502 | 881721 | 827936019 | 30.6431 | 9.7924 | 1.06496 |
| **940** | **2953.1** | **693978** | **883600** | **830584000** | **30.6594** | **9.7959** | **1.06383** |
| 941 | 2956.2 | 695455 | 885481 | 833237621 | 30.6757 | 9.7993 | 1.06270 |
| 942 | 2959.4 | 696934 | 887364 | 835896888 | 30.6920 | 9.8028 | 1.06157 |
| 943 | 2962.5 | 698415 | 889249 | 838561807 | 30.7083 | 9.8063 | 1.06045 |
| 944 | 2965.7 | 699897 | 891136 | 841232384 | 30.7246 | 9.8097 | 1.05932 |
| **945** | **2968.8** | **701380** | **893025** | **843908625** | **30.7409** | **9.8132** | **1.05820** |
| 946 | 2971.9 | 702865 | 894916 | 846590536 | 30.7571 | 9.8167 | 1.05708 |
| 947 | 2975.1 | 704352 | 896809 | 849278123 | 30.7734 | 9.8201 | 1.05597 |
| 948 | 2978.2 | 705840 | 898704 | 851971392 | 30.7896 | 9.8236 | 1.05485 |
| 949 | 2981.4 | 707330 | 900601 | 854670349 | 30.8058 | 9.8270 | 1.05374 |

| No. | No. = Diam. | | Square. | Cube. | Square Root. | Cube Root. | 1000 × Reciprocals |
|---|---|---|---|---|---|---|---|
| | Circum. | Area. | | | | | |
| **950** | **2984.5** | **708822** | **902500** | **857375000** | **30.8221** | **9.8305** | **1.05263** |
| 951 | 2987.7 | 710315 | 904401 | 860085351 | 30.8383 | 9.8339 | 1.05152 |
| 952 | 2990.8 | 711809 | 906304 | 862801408 | 30.8545 | 9.8374 | 1.05042 |
| 953 | 2993.9 | 713306 | 908209 | 865523177 | 30.8707 | 9.8408 | 1.04932 |
| 954 | 2997.1 | 714803 | 910116 | 868250664 | 30.8869 | 9.8443 | 1.04822 |
| **955** | **3000.2** | **716303** | **912025** | **870983875** | **30.9031** | **9.8477** | **1.04712** |
| 956 | 3003.4 | 717804 | 913936 | 873722816 | 30.9192 | 9.8511 | 1.04603 |
| 957 | 3006.5 | 719306 | 915849 | 876467493 | 30.9354 | 9.8546 | 1.04493 |
| 958 | 3009.6 | 720810 | 917764 | 879217912 | 30.9516 | 9.8580 | 1.04384 |
| 959 | 3012.8 | 722316 | 919681 | 881974079 | 30.9677 | 9.8614 | 1.04275 |
| **960** | **3015.9** | **723823** | **921600** | **884736000** | **30.9839** | **9.8648** | **1.04167** |
| 961 | 3019.1 | 725332 | 923521 | 887503681 | 31.0000 | 9.8683 | 1.04058 |
| 962 | 3022.2 | 726842 | 925444 | 890277128 | 31.0161 | 9.8717 | 1.03950 |
| 963 | 3025.4 | 728354 | 927369 | 893056347 | 31.0322 | 9.8751 | 1.03842 |
| 964 | 3028.5 | 729867 | 929296 | 895841344 | 31.0483 | 9.8785 | 1.03734 |
| **965** | **3031.6** | **731382** | **931225** | **898632125** | **31.0644** | **9.8819** | **1.03627** |
| 966 | 3034.8 | 732899 | 933156 | 901428696 | 31.0805 | 9.8854 | 1.03520 |
| 967 | 3037.9 | 734417 | 935089 | 904231063 | 31.0966 | 9.8888 | 1.03413 |
| 968 | 3041.1 | 735937 | 937024 | 907039232 | 31.1127 | 9.8922 | 1.03306 |
| 969 | 3044.2 | 737458 | 938961 | 909853209 | 31.1288 | 9.8956 | 1.03199 |
| **970** | **3047.3** | **738981** | **940900** | **912673000** | **31.1448** | **9.8990** | **1.03093** |
| 971 | 3050.5 | 740506 | 942841 | 915498611 | 31.1609 | 9.9024 | 1.02987 |
| 972 | 3053.6 | 742032 | 944784 | 918330048 | 31.1769 | 9.9058 | 1.02881 |
| 973 | 3056.8 | 743559 | 946729 | 921167317 | 31.1929 | 9.9092 | 1.02775 |
| 974 | 3059.9 | 745088 | 948676 | 924010424 | 31.2090 | 9.9126 | 1.02669 |
| **975** | **3063.1** | **746619** | **950625** | **926859375** | **31.2250** | **9.9160** | **1.02564** |
| 976 | 3066.2 | 748151 | 952576 | 929714176 | 31.2410 | 9.9194 | 1.02459 |
| 977 | 3069.3 | 749685 | 954529 | 932574833 | 31.2570 | 9.9227 | 1.02354 |
| 978 | 3072.5 | 751221 | 956484 | 935441352 | 31.2730 | 9.9261 | 1.02249 |
| 979 | 3075.6 | 752758 | 958441 | 938313739 | 31.2890 | 9.9295 | 1.02145 |
| **980** | **3078.8** | **754296** | **960400** | **941192000** | **31.3050** | **9.9329** | **1.02041** |
| 981 | 3081.9 | 755837 | 962361 | 944076141 | 31.3209 | 9.9363 | 1.01937 |
| 982 | 3085.0 | 757378 | 964324 | 946966168 | 31.3369 | 9.9396 | 1.01833 |
| 983 | 3088.2 | 758922 | 966289 | 949862087 | 31.3528 | 9.9430 | 1.01729 |
| 984 | 3091.3 | 760466 | 968256 | 952763904 | 31.3688 | 9.9464 | 1.01626 |
| **985** | **3094.5** | **762013** | **970225** | **955671625** | **31.3847** | **9.9497** | **1.01523** |
| 986 | 3097.6 | 763561 | 972196 | 958585256 | 31.4006 | 9.9531 | 1.01420 |
| 987 | 3100.8 | 765111 | 974169 | 961504803 | 31.4166 | 9.9565 | 1.01317 |
| 988 | 3103.9 | 766662 | 976144 | 964430272 | 31.4325 | 9.9598 | 1.01215 |
| 989 | 3107.0 | 768214 | 978121 | 967361669 | 31.4484 | 9.9632 | 1.01112 |
| **990** | **3110.2** | **769769** | **980100** | **970299000** | **31.4643** | **9.9666** | **1.01010** |
| 991 | 3113.3 | 771325 | 982081 | 973242271 | 31.4802 | 9.9699 | 1.00908 |
| 992 | 3116.5 | 772882 | 984064 | 976191488 | 31.4960 | 9.9733 | 1.00806 |
| 993 | 3119.6 | 774441 | 986049 | 979146657 | 31.5119 | 9.9766 | 1.00705 |
| 994 | 3122.7 | 776002 | 988036 | 982107784 | 31.5278 | 9.9800 | 1.00604 |
| **995** | **3125.9** | **777564** | **990025** | **985074875** | **31.5436** | **9.9833** | **1.00503** |
| 996 | 3129.0 | 779128 | 992016 | 988047936 | 31.5595 | 9.9866 | 1.00402 |
| 997 | 3132.2 | 780693 | 994009 | 991026973 | 31.5753 | 9.9900 | 1.00301 |
| 998 | 3135.3 | 782260 | 996004 | 994011992 | 31.5911 | 9.9933 | 1.00200 |
| 999 | 3138.5 | 783828 | 998001 | 997002999 | 31.6070 | 9.9967 | 1.00100 |

| DEGREES | | | | | | MINUTES | | SECONDS | |
|---|---|---|---|---|---|---|---|---|---|
| 0° | 0.000000 | 60° | 1.047198 | 120° | 2.094395 | 0′ | 0.000000 | 0″ | 0.000000 |
| 1 | 0.017453 | 61 | 1.064651 | 121 | 2.111848 | 1 | 0.000291 | 1 | 0.000005 |
| 2 | 0.034907 | 62 | 1.082104 | 122 | 2.129302 | 2 | 0.000582 | 2 | 0.000010 |
| 3 | 0.052360 | 63 | 1.099557 | 123 | 2.146755 | 3 | 0.000873 | 3 | 0.000015 |
| 4 | 0.069813 | 64 | 1.117011 | 124 | 2.164208 | 4 | 0.001164 | 4 | 0.000019 |
| 5 | 0.087266 | 65 | 1.134464 | 125 | 2.181662 | 5 | 0.001454 | 5 | 0.000024 |
| 6 | 0.104720 | 66 | 1.151917 | 126 | 2.199115 | 6 | 0 001745 | 6 | 0.000029 |
| 7 | 0.122173 | 67 | 1.169371 | 127 | 2.216568 | 7 | 0.002036 | 7 | 0.000034 |
| 8 | 0.139626 | 68 | 1.186824 | 128 | 2.234021 | 8 | 0.002327 | 8 | 0.000039 |
| 9 | 0.157080 | 69 | 1.204277 | 129 | 2.251475 | 9 | 0.002618 | 9 | 0.000044 |
| 10 | 0.174533 | 70 | 1.221730 | 130 | 2.268928 | 10 | 0.002909 | 10 | 0.000048 |
| 11 | 0.191986 | 71 | 1.239184 | 131 | 2.286381 | 11 | 0.003200 | 11 | 0.000053 |
| 12 | 0.209440 | 72 | 1.256637 | 132 | 2.303835 | 12 | 0.003491 | 12 | 0.000058 |
| 13 | 0.226893 | 73 | 1.274090 | 133 | 2.321288 | 13 | 0.003782 | 13 | 0.000063 |
| 14 | 0.244346 | 74 | 1.291544 | 134 | 2.338741 | 14 | 0.004072 | 14 | 0.000068 |
| 15 | 0.261799 | 75 | 1.308997 | 135 | 2.356194 | 15 | 0.004363 | 15 | 0.000073 |
| 16 | 0.279253 | 76 | 1.326450 | 136 | 2.373648 | 16 | 0.004654 | 16 | 0.000078 |
| 17 | 0.296706 | 77 | 1.343904 | 137 | 2.391101 | 17 | 0.004945 | 17 | 0.000082 |
| 18 | 0.314159 | 78 | 1.361357 | 138 | 2.408554 | 18 | 0.005236 | 18 | 0.000087 |
| 19 | 0.331613 | 79 | 1.378810 | 139 | 2.426008 | 19 | 0.005527 | 19 | 0.000092 |
| 20 | 0.349066 | 80 | 1.396263 | 140 | 2.443461 | 20 | 0.005818 | 20 | 0.000097 |
| 21 | 0.366519 | 81 | 1.413717 | 141 | 2.460914 | 21 | 0.006109 | 21 | 0.000102 |
| 22 | 0.383972 | 82 | 1.431170 | 142 | 2.478368 | 22 | 0.006400 | 22 | 0.000107 |
| 23 | 0.401426 | 83 | 1.448623 | 143 | 2.495821 | 23 | 0.006690 | 23 | 0.000112 |
| 24 | 0.418879 | 84 | 1.466077 | 144 | 2.513274 | 24 | 0.006981 | 24 | 0.000116 |
| 25 | 0.436332 | 85 | 1.483530 | 145 | 2.530727 | 25 | 0.007272 | 25 | 0.000121 |
| 26 | 0.453786 | 86 | 1.500983 | 146 | 2.548181 | 26 | 0.007563 | 26 | 0.000126 |
| 27 | 0.471239 | 87 | 1.518436 | 147 | 2.565634 | 27 | 0.007854 | 27 | 0.000131 |
| 28 | 0.488692 | 88 | 1.535890 | 148 | 2.583087 | 28 | 0.008145 | 28 | 0.000136 |
| 29 | 0.506145 | 89 | 1.553343 | 149 | 2.600541 | 29 | 0.008436 | 29 | 0.000141 |
| 30 | 0.523599 | 90 | 1.570796 | 150 | 2.617994 | 30 | 0.008727 | 30 | 0.000145 |
| 31 | 0.541052 | 91 | 1.588250 | 151 | 2.635447 | 31 | 0.009018 | 31 | 0.000150 |
| 32 | 0.558505 | 92 | 1.605703 | 152 | 2.652900 | 32 | 0.009308 | 32 | 0.000155 |
| 33 | 0.575959 | 93 | 1.623156 | 153 | 2.670354 | 33 | 0.009599 | 33 | 0.000160 |
| 34 | 0.593412 | 94 | 1.640609 | 154 | 2.687807 | 34 | 0.009890 | 34 | 0.000165 |
| 35 | 0.610865 | 95 | 1.658063 | 155 | 2.705260 | 35 | 0.010181 | 35 | 0.000170 |
| 36 | 0.628319 | 96 | 1.675516 | 156 | 2.722714 | 36 | 0.010472 | 36 | 0.000175 |
| 37 | 0.645772 | 97 | 1.692969 | 157 | 2.740167 | 37 | 0.010763 | 37 | 0.000179 |
| 38 | 0.663225 | 98 | 1.710423 | 158 | 2.757620 | 38 | 0.011054 | 38 | 0.000184 |
| 39 | 0.680678 | 99 | 1.727876 | 159 | 2.775074 | 39 | 0.011345 | 39 | 0.000189 |
| 40 | 0.698132 | 100 | 1.745329 | 160 | 2.792527 | 40 | 0.011636 | 40 | 0.000194 |
| 41 | 0.715585 | 101 | 1.762783 | 161 | 2.809980 | 41 | 0.011926 | 41 | 0.000199 |
| 42 | 0.733038 | 102 | 1.780236 | 162 | 2.827433 | 42 | 0.012217 | 42 | 0.000204 |
| 43 | 0.750492 | 103 | 1.797689 | 163 | 2.844887 | 43 | 0.012508 | 43 | 0.000208 |
| 44 | 0.767945 | 104 | 1.815142 | 164 | 2.862340 | 44 | 0.012799 | 44 | 0.000213 |
| 45 | 0.785398 | 105 | 1.832596 | 165 | 2.879793 | 45 | 0.013090 | 45 | 0.000218 |
| 46 | 0.802851 | 106 | 1.850049 | 166 | 2.897247 | 46 | 0.013381 | 46 | 0.000223 |
| 47 | 0.820305 | 107 | 1.867502 | 167 | 2.914700 | 47 | 0.013672 | 47 | 0.000228 |
| 48 | 0.837758 | 108 | 1.884956 | 168 | 2.932153 | 48 | 0.013963 | 48 | 0.000233 |
| 49 | 0.855211 | 109 | 1.902409 | 169 | 2.949606 | 49 | 0.014254 | 49 | 0.000238 |
| 50 | 0.872665 | 110 | 1.919862 | 170 | 2.967060 | 50 | 0.014544 | 50 | 0.000242 |
| 51 | 0.890118 | 111 | 1.937315 | 171 | 2.984513 | 51 | 0.014835 | 51 | 0.000247 |
| 52 | 0.907571 | 112 | 1.954769 | 172 | 3.001966 | 52 | 0.015126 | 52 | 0.000252 |
| 53 | 0.925025 | 113 | 1.972222 | 173 | 3.019420 | 53 | 0.015417 | 53 | 0.000257 |
| 54 | 0.942478 | 114 | 1.989675 | 174 | 3.036873 | 54 | 0.015708 | 54 | 0.000262 |
| 55 | 0.959931 | 115 | 2.007129 | 175 | 3.054326 | 55 | 0.015999 | 55 | 0.000267 |
| 56 | 0.977384 | 116 | 2.024582 | 176 | 3.071779 | 56 | 0.016290 | 56 | 0.000271 |
| 57 | 0.994838 | 117 | 2.042035 | 177 | 3.089233 | 57 | 0.016581 | 57 | 0.000276 |
| 58 | 1.012291 | 118 | 2.059489 | 178 | 3.106686 | 58 | 0.016872 | 58 | 0.000281 |
| 59 | 1.029744 | 119 | 2.076942 | 179 | 3.124139 | 59 | 0.017162 | 59 | 0.000286 |
| 60 | 1.047198 | 120 | 2.094395 | 180 | 3.141593 | 60 | 0.017453 | 60 | 0.000291 |

## FOR DIAMETERS IN UNITS AND FRACTIONS

| Dia. | Area | Circum. | Dia. | Area | Circum. | Dia. | Area | Circum. |
|---|---|---|---|---|---|---|---|---|
| 0 | | | 1 | 0.78540 | 3.14159 | 3 | 7.0686 | 9.42478 |
| 1/32 | 0.00077 | 0.098175 | 1/16 | 0.88664 | 3.33794 | 1/16 | 7.3622 | 9.62113 |
| 1/16 | 0.00307 | 0.196350 | 1/8 | 0.99402 | 3.53429 | 1/8 | 7.6699 | 9.81748 |
| 3/32 | 0.00690 | 0.294524 | 3/16 | 1.1075 | 3.73064 | 3/16 | 7.9769 | 10.0138 |
| 1/8 | 0.01227 | 0.392699 | 1/4 | 1.2272 | 3.92699 | 1/4 | 8.2958 | 10.2102 |
| 5/32 | 0.01917 | 0.490874 | 5/16 | 1.3530 | 4.12334 | 5/16 | 8.6179 | 10.4065 |
| 3/16 | 0.02761 | 0.589049 | 3/8 | 1.4849 | 4.31969 | 3/8 | 8.9462 | 10.6029 |
| 7/32 | 0.03758 | 0.687223 | 7/16 | 1.6230 | 4.51604 | 7/16 | 9.2806 | 10.7992 |
| 1/4 | 0.04909 | 0.785398 | 1/2 | 1.7671 | 4.71239 | 1/2 | 9.6211 | 10.9956 |
| 9/32 | 0.06213 | 0.883573 | 9/16 | 1.9175 | 4.90874 | 9/16 | 9.9678 | 11.1919 |
| 5/16 | 0.07670 | 0.981748 | 5/8 | 2.0739 | 5.10509 | 5/8 | 10.321 | 11.3883 |
| 11/32 | 0.09281 | 1.07992 | 11/16 | 2.2365 | 5.30144 | 11/16 | 10.680 | 11.5846 |
| 3/8 | 0.11045 | 1.17810 | 3/4 | 2.4053 | 5.49779 | 3/4 | 11.045 | 11.7810 |
| 13/32 | 0.12962 | 1.27627 | 13/16 | 2.5802 | 5.69414 | 13/16 | 11.416 | 11.9773 |
| 7/16 | 0.15033 | 1.37445 | 7/8 | 2.7612 | 5.89049 | 7/8 | 11.793 | 12.1737 |
| 15/32 | 0.17257 | 1.47262 | 15/16 | 2.9483 | 6.08684 | 15/16 | 12.177 | 12.3700 |
| 1/2 | 0.19635 | 1.57080 | 2 | 3.1416 | 6.28319 | 4 | 12.566 | 12.5664 |
| 17/32 | 0.22166 | 1.66897 | 1/16 | 3.3410 | 6.47953 | 1/16 | 12.962 | 12.7627 |
| 9/16 | 0.24850 | 1.76715 | 1/8 | 3.5466 | 6.67588 | 1/8 | 13.364 | 12.9591 |
| 19/32 | 0.27688 | 1.86532 | 3/16 | 3.7583 | 6.87223 | 3/16 | 13.772 | 13.1554 |
| 5/8 | 0.30680 | 1.96350 | 1/4 | 3.9761 | 7.06858 | 1/4 | 14.186 | 13.3518 |
| 21/32 | 0.33824 | 2.06167 | 5/16 | 4.2000 | 7.26493 | 5/16 | 14.607 | 13.5481 |
| 11/16 | 0.37122 | 2.15984 | 3/8 | 4.4301 | 7.46128 | 3/8 | 15.033 | 13.7445 |
| 23/32 | 0.40574 | 2.25802 | 7/16 | 4.6664 | 7.65763 | 7/16 | 15.466 | 13.9408 |
| 3/4 | 0.44179 | 2.35619 | 1/2 | 4.9087 | 7.85398 | 1/2 | 15.904 | 14.1372 |
| 25/32 | 0.47937 | 2.45437 | 9/16 | 5.1572 | 8.05033 | 9/16 | 16.349 | 14.3335 |
| 13/16 | 0.51849 | 2.55254 | 5/8 | 5.4119 | 8.24668 | 5/8 | 16.800 | 14.5299 |
| 27/32 | 0.55914 | 2.65072 | 11/16 | 5.6727 | 8.44303 | 11/16 | 17.257 | 14.7262 |
| 7/8 | 0.60132 | 2.74889 | 3/4 | 5.9396 | 8.63938 | 3/4 | 17.721 | 14.9226 |
| 29/32 | 0.64504 | 2.84707 | 13/16 | 6.2126 | 8.83573 | 13/16 | 18.190 | 15.1189 |
| 15/16 | 0.69029 | 2.94524 | 7/8 | 6.4918 | 9.03208 | 7/8 | 18.665 | 15.3153 |
| 31/32 | 0.73708 | 3.04342 | 15/16 | 6.7771 | 9.22843 | 15/16 | 19.147 | 15.5116 |

## FOR DIAMETERS IN UNITS AND FRACTIONS

| Dia. | Area | Circum. | Dia. | Area | Circum. | Dia. | Area | Circum. |
|---|---|---|---|---|---|---|---|---|
| 5 | 19.635 | 15.7080 | 7 | 38.485 | 21.9911 | 10 | 78.540 | 31.4159 |
| 1/16 | 20.129 | 15.9043 | 1/16 | 39.175 | 22.1876 | 1/8 | 80.516 | 31.8086 |
| 1/8 | 20.629 | 16.1007 | 1/8 | 39.871 | 22.3838 | 1/4 | 82.516 | 32.2013 |
| 3/16 | 21.135 | 16.2970 | 3/16 | 40.574 | 22.5803 | 3/8 | 84.541 | 32.5940 |
| 1/4 | 21.648 | 16.4934 | 1/4 | 41.282 | 22.7765 | 1/2 | 86.590 | 32.9867 |
| 5/16 | 22.166 | 16.6897 | 5/16 | 41.997 | 22.9730 | 5/8 | 88.664 | 33.3794 |
| 3/8 | 22.691 | 16.8861 | 3/8 | 42.718 | 23.1692 | 3/4 | 90.763 | 33.7721 |
| 7/16 | 23.221 | 17.0824 | 7/16 | 43.446 | 23.3657 | 7/8 | 92.886 | 34.1648 |
| 1/2 | 23.758 | 17.2788 | 1/2 | 44.179 | 23.5619 | 11 | 95.033 | 34.5575 |
| 9/16 | 24.301 | 17.4751 | 9/16 | 44.918 | 23.7584 | 1/8 | 97.205 | 34.9502 |
| 5/8 | 24.850 | 17.6715 | 5/8 | 45.664 | 23.9546 | 1/4 | 99.402 | 35.3429 |
| 11/16 | 25.406 | 17.8678 | 11/16 | 46.415 | 24.1511 | 3/8 | 101.62 | 35.7356 |
| 3/4 | 25.967 | 18.0642 | 3/4 | 47.173 | 24.3473 | 1/2 | 103.87 | 36.1283 |
| 13/16 | 26.535 | 18.2605 | 13/16 | 47.937 | 24.5428 | 5/8 | 106.14 | 36.5210 |
| 7/8 | 27.109 | 18.4569 | 7/8 | 48.707 | 24.7400 | 3/4 | 108.43 | 36.9137 |
| 15/16 | 27.688 | 18.6532 | 15/16 | 49.483 | **24.9364** | 7/8 | 110.75 | 37.3064 |
| 6 | 28.274 | 18.8496 | 8 | 50.265 | 25.1327 | 12 | 113.10 | 37.6991 |
| 1/16 | 28.867 | 19.0460 | 1/8 | 51.849 | 25.5254 | 1/8 | 115.47 | 38.0918 |
| 1/8 | 29.465 | 19.2423 | 1/4 | 53.456 | 25.9181 | 1/4 | 117.86 | 38.4845 |
| 3/16 | 30.069 | 19.4387 | 3/8 | 55.088 | 26.3108 | 3/8 | 120.28 | 38.8772 |
| 1/4 | 30.680 | 19.6350 | 1/2 | 56.745 | 26.7035 | 1/2 | 122.72 | 39.2699 |
| 5/16 | 31.296 | 19.8314 | 5/8 | 58.426 | 27.0962 | 5/8 | 125.19 | 39.6626 |
| 3/8 | 31.919 | 20.0277 | 3/4 | 60.132 | 27.4889 | 3/4 | 127.68 | 40.0553 |
| 7/16 | 32.548 | 20.2241 | 7/8 | 61.862 | 27.8816 | 7/8 | 130.19 | 40.4480 |
| 1/2 | 33.183 | 20.4204 | 9 | 63.617 | 28.2743 | 13 | 132.73 | 40.8407 |
| 9/16 | 34.824 | 20.6168 | 1/8 | 65.397 | 28.6670 | 1/8 | 135.30 | 41.2334 |
| 5/8 | 34.471 | 20.8131 | 1/4 | 67.201 | 29.0597 | 1/4 | 137.89 | 41.6261 |
| 11/16 | 35.125 | 21.0095 | 3/8 | 69.029 | 29.4524 | 3/8 | 140.50 | 42.0188 |
| 3/4 | 35.785 | 21.2058 | 1/2 | 70.882 | 29.8451 | 1/2 | 143.14 | 42.4115 |
| 13/16 | 36.451 | 21.4022 | 5/8 | 72.760 | 30.2378 | 5/8 | 145.80 | 42.8042 |
| 7/8 | 37.122 | 21.5984 | 3/4 | 74.662 | 30.6305 | 3/4 | 148.49 | 43.1969 |
| 15/16 | 37.800 | 21.7949 | 7/8 | 76.589 | 31.0232 | 7/8 | 151.20 | 43.5896 |

| Dia. | Area | Circum. | Dia. | Area | Circum. | Dia. | Area | Circum. |
|---|---|---|---|---|---|---|---|---|
| 14 | 153.94 | 43.9823 | 18 | 254.47 | 56.5487 | 22 | 380.13 | 69.1150 |
| ⅛ | 156.70 | 44.3750 | ⅛ | 258.02 | 56.9414 | ⅛ | 384.46 | 69.5077 |
| ¼ | 159.48 | 44.7677 | ¼ | 261.59 | 57.3341 | ¼ | 388.82 | 69.9004 |
| ⅜ | 162.30 | 45.1604 | ⅜ | 265.18 | 57.7268 | ⅜ | 393.20 | 70.2931 |
| ½ | 165.13 | 45.5531 | ½ | 268.80 | 58.1195 | ½ | 397.61 | 70.6858 |
| ⅝ | 167.99 | 45.9458 | ⅝ | 272.45 | 58.5122 | ⅝ | 402.04 | 71.0785 |
| ¾ | 170.87 | 46.3385 | ¾ | 276.12 | 58.9049 | ¾ | 406.49 | 71.4712 |
| ⅞ | 173.78 | 46.7312 | ⅞ | 279.81 | 59.2976 | ⅞ | 410.97 | 71.8639 |
| 15 | 176.71 | 47.1239 | 19 | 283.53 | 59.6903 | 23 | 415.48 | 72.2566 |
| ⅛ | 179.67 | 47.5166 | ⅛ | 287.27 | 60.0830 | ⅛ | 420.00 | 72.6493 |
| ¼ | 182.65 | 47.9093 | ¼ | 291.04 | 60.4757 | ¼ | 424.56 | 73.0420 |
| ⅜ | 185.66 | 48.3020 | ⅜ | 294.83 | 60.8684 | ⅜ | 429.13 | 73.4347 |
| ½ | 188.69 | 48.6947 | ½ | 298.65 | 61.2611 | ½ | 433.74 | 73.8274 |
| ⅝ | 191.75 | 49.0874 | ⅝ | 302.49 | 61.6538 | ⅝ | 438.36 | 74.2201 |
| ¾ | 194.83 | 49.4801 | ¾ | 306.35 | 62.0465 | ¾ | 443.01 | 74.6128 |
| ⅞ | 197.93 | 49.8728 | ⅞ | 310.24 | 62.4392 | ⅞ | 447.69 | 75.0055 |
| 16 | 201.06 | 50.2655 | 20 | 314.16 | 62.8319 | 24 | 452.39 | 75.3982 |
| ⅛ | 204.22 | 50.6582 | ⅛ | 318.10 | 63.2246 | ⅛ | 457.11 | 75.7909 |
| ¼ | 207.39 | 51.0509 | ¼ | 322.06 | 63.6173 | ¼ | 461.86 | 76.1836 |
| ⅜ | 210.60 | 51.4436 | ⅜ | 326.05 | 64.0100 | ⅜ | 466.64 | 76.5783 |
| ½ | 213.82 | 51.8363 | ½ | 330.06 | 64.4026 | ½ | 471.44 | 76.9690 |
| ⅝ | 217.08 | 52.2290 | ⅝ | 334.10 | 64.7953 | ⅝ | 476.26 | 77.3617 |
| ¾ | 220.35 | 52.6217 | ¾ | 338.16 | 65.1880 | ¾ | 481.11 | 77.7544 |
| ⅞ | 223.65 | 53.0144 | ⅞ | 342.25 | 65.5807 | ⅞ | 485.98 | 78.1471 |
| 17 | 226.98 | 53.4071 | 21 | 346.36 | 65.9734 | 25 | 490.87 | 78.5398 |
| ⅛ | 230.33 | 53.7998 | ⅛ | 350.50 | 66.3661 | ⅛ | 495.79 | 78.9325 |
| ¼ | 233.71 | 54.1925 | ¼ | 354.66 | 66.7588 | ¼ | 500.74 | 79.3252 |
| ⅜ | 237.10 | 54.5852 | ⅜ | 358.84 | 67.1515 | ⅜ | 505.71 | 79.7179 |
| ½ | 240.53 | 54.9779 | ½ | 363.05 | 67.5442 | ½ | 510.71 | 80.1106 |
| ⅝ | 243.98 | 55.3706 | ⅝ | 367.28 | 67.9369 | ⅝ | 515.72 | 80.5033 |
| ¾ | 247.45 | 55.7633 | ¾ | 371.54 | 68.3296 | ¾ | 520.77 | 80.8960 |
| ⅞ | 250.95 | 56.1560 | ⅞ | 375.83 | 68.7223 | ⅞ | 525.84 | 81.2887 |

## FOR DIAMETERS IN UNITS AND FRACTIONS

| Dia. | Area | Circum. | Dia. | Area | Circum. | Dia. | Area | Circum. |
|---|---|---|---|---|---|---|---|---|
| 26 | 530.93 | 81.6814 | 30 | 706.86 | 94.2478 | 34 | 907.92 | 106.814 |
| 1/8 | 536.05 | 82.0741 | 1/8 | 712.76 | 94.6405 | 1/8 | 914.61 | 107.207 |
| 1/4 | 541.19 | 82.4668 | 1/4 | 718.69 | 95.0332 | 1/4 | 921.32 | 107.600 |
| 3/8 | 546.35 | 82.8595 | 3/8 | 724.64 | 95.4259 | 3/8 | 928.06 | 107.992 |
| 1/2 | 551.55 | 83.2522 | 1/2 | 730.62 | 95.8186 | 1/2 | 934.82 | 108.385 |
| 5/8 | 556.76 | 83.6449 | 5/8 | 736.62 | 96.2113 | 5/8 | 941.61 | 108.788 |
| 3/4 | 562.00 | 84.0376 | 3/4 | 742.64 | 96.6040 | 3/4 | 948.42 | 109.170 |
| 7/8 | 567.27 | 84.4303 | 7/8 | 748.69 | 96.9967 | 7/8 | 955.25 | 109.563 |
| 27 | 572.56 | 84.8230 | 31 | 754.77 | 97.3894 | 35 | 962.11 | 109.956 |
| 1/8 | 577.87 | 85.2157 | 1/8 | 760.87 | 97.7821 | 1/8 | 969.00 | 110.348 |
| 1/4 | 583.21 | 85.6084 | 1/4 | 766.99 | 98.1748 | 1/4 | 975.91 | 110.741 |
| 3/8 | 588.57 | 86.0011 | 3/8 | 773.14 | 98.5675 | 3/8 | 982.84 | 111.134 |
| 1/2 | 593.96 | 86.3938 | 1/2 | 779.31 | 98.9602 | 1/2 | 989.80 | 111.527 |
| 5/8 | 599.37 | 86.7865 | 5/8 | 785.51 | 99.3529 | 5/8 | 996.78 | 111.919 |
| 3/4 | 604.81 | 87.1792 | 3/4 | 791.73 | 99.7456 | 3/4 | 1003.8 | 112.312 |
| 7/8 | 610.27 | 87.5719 | 7/8 | 797.98 | 100.138 | 7/8 | 1010.8 | 112.705 |
| 28 | 615.75 | 87.9646 | 32 | 804.25 | 100.531 | 36 | 1017.9 | 113.097 |
| 1/8 | 621.26 | 88.3573 | 1/8 | 810.54 | 100.924 | 1/8 | 1025.0 | 113.490 |
| 1/4 | 626.80 | 88.7500 | 1/4 | 816.86 | 101.316 | 1/4 | 1032.1 | 113.883 |
| 3/8 | 632.36 | 89.1427 | 3/8 | 823.21 | 101.709 | 3/8 | 1039.2 | 114.275 |
| 1/2 | 637.94 | 89.5354 | 1/2 | 829.58 | 102.102 | 1/2 | 1046.3 | 114.668 |
| 5/8 | 643.55 | 89.9281 | 5/8 | 835.97 | 102.494 | 5/8 | 1053.5 | 115.061 |
| 3/4 | 649.18 | 90.3208 | 3/4 | 842.39 | 102.887 | 3/4 | 1060.7 | 115.454 |
| 7/8 | 654.85 | 90.7135 | 7/8 | 848.83 | 103.280 | 7/8 | 1068.0 | 115.846 |
| 29 | 660.52 | 91.1062 | 33 | 855.30 | 103.673 | 37 | 1075.2 | 116.239 |
| 1/8 | 666.23 | 91.4989 | 1/8 | 861.79 | 104.065 | 1/8 | 1082.5 | 116.632 |
| 1/4 | 671.96 | 91.8916 | 1/4 | 868.31 | 104.458 | 1/4 | 1089.8 | 117.024 |
| 3/8 | 677.71 | 92.2843 | 3/8 | 874.85 | 104.851 | 3/8 | 1097.1 | 117.417 |
| 1/2 | 683.49 | 92.6770 | 1/2 | 881.41 | 105.243 | 1/2 | 1104.5 | 117.810 |
| 5/8 | 689.30 | 93.0697 | 5/8 | 888.00 | 105.636 | 5/8 | 1111.8 | 118.202 |
| 3/4 | 695.13 | 93.4624 | 3/4 | 894.62 | 106.029 | 3/4 | 1119.2 | 118.595 |
| 7/8 | 700.98 | 93.8551 | 7/8 | 901.26 | 106.421 | 7/8 | 1126.7 | 118.988 |

| Dia. | Area | Circum. | Dia. | Area | Circum. | Dia. | Area | Circum. |
|---|---|---|---|---|---|---|---|---|
| 38 | 1134.1 | 119.381 | 42 | 1385.4 | 131.947 | 46 | 1661.9 | 144.513 |
| ⅛ | 1141.6 | 119.773 | ⅛ | 1393.7 | 132.340 | ⅛ | 1670.9 | 144.906 |
| ¼ | 1149.1 | 120.166 | ¼ | 1402.0 | 132.732 | ¼ | 1680.0 | 145.299 |
| ⅜ | 1156.6 | 120.559 | ⅜ | 1410.3 | 133.125 | ⅜ | 1689.1 | 145.691 |
| ½ | 1164.2 | 120.951 | ½ | 1418.6 | 133.518 | ½ | 1698.2 | 146.084 |
| ⅝ | 1171.7 | 121.344 | ⅝ | 1427.0 | 133.910 | ⅝ | 1707.4 | 146.477 |
| ¾ | 1179.3 | 121.737 | ¾ | 1435.4 | 134.303 | ¾ | 1716.5 | 146.869 |
| ⅞ | 1186.9 | 122.129 | ⅞ | 1443.8 | 134.696 | ⅞ | 1725.7 | 147.262 |
| 39 | 1194.6 | 122.522 | 43 | 1452.2 | 135.088 | 47 | 1734.9 | 147.655 |
| ⅛ | 1202.3 | 122.915 | ⅛ | 1460.7 | 135.481 | ⅛ | 1744.2 | 148.048 |
| ¼ | 1210.0 | 123.308 | ¼ | 1469.1 | 135.874 | ¼ | 1753.5 | 148.440 |
| ⅜ | 1217.7 | 123.700 | ⅜ | 1477.6 | 136.267 | ⅜ | 1762.7 | 148.833 |
| ½ | 1225.4 | 124.093 | ½ | 1486.2 | 136.659 | ½ | 1772.1 | 149.226 |
| ⅝ | 1233.2 | 124.486 | ⅝ | 1494.7 | 137.052 | ⅝ | 1781.4 | 149.618 |
| ¾ | 1241.0 | 124.878 | ¾ | 1503.3 | 137.445 | ¾ | 1790.8 | 150.011 |
| ⅞ | 1248.8 | 125.271 | ⅞ | 1511.9 | 137.837 | ⅞ | 1800.1 | 150.404 |
| 40 | 1256.6 | 125.664 | 44 | 1520.5 | 138.230 | 48 | 1809.6 | 150.796 |
| ⅛ | 1264.5 | 126.056 | ⅛ | 1529.2 | 138.623 | ⅛ | 1819.0 | 151.189 |
| ¼ | 1272.4 | 126.449 | ¼ | 1537.9 | 139.015 | ¼ | 1828.5 | 151.582 |
| ⅜ | 1280.3 | 126.842 | ⅜ | 1546.6 | 139.408 | ⅜ | 1837.9 | 151.975 |
| ½ | 1288.2 | 127.235 | ½ | 1555.3 | 139.801 | ½ | 1847.5 | 152.367 |
| ⅝ | 1296.2 | 127.627 | ⅝ | 1564.0 | 140.194 | ⅝ | 1857.0 | 152.760 |
| ¾ | 1304.2 | 128.020 | ¾ | 1572.8 | 140.586 | ¾ | 1866.5 | 153.153 |
| ⅞ | 1312.2 | 128.413 | ⅞ | 1581.6 | 140.979 | ⅞ | 1876.1 | 153.545 |
| 41 | 1320.3 | 128.805 | 45 | 1590.4 | 141.372 | 49 | 1885.7 | 153.938 |
| ⅛ | 1328.3 | 129.198 | ⅛ | 1599.3 | 141.764 | ⅛ | 1895.4 | 154.331 |
| ¼ | 1336.4 | 129.591 | ¼ | 1608.2 | 142.157 | ¼ | 1905.0 | 154.723 |
| ⅜ | 1344.5 | 129.983 | ⅜ | 1617.0 | 142.550 | ⅜ | 1914.7 | 155.116 |
| ½ | 1352.7 | 130.376 | ½ | 1626.0 | 142.942 | ½ | 1924.2 | 155.509 |
| ⅝ | 1360.8 | 130.769 | ⅝ | 1634.9 | 143.335 | ⅝ | 1934.2 | 155.902 |
| ¾ | 1369.0 | 131.161 | ¾ | 1643.9 | 143.728 | ¾ | 1943.9 | 156.294 |
| ⅞ | 1377.2 | 131.554 | ⅞ | 1652.9 | 144.121 | ⅞ | 1953.7 | 156.687 |

# AREAS AND CIRCUMFERENCES OF CIRCLES FOR DIAMETERS IN UNITS AND FRACTIONS

| Dia. | Area | Circum. | Dia. | Area | Circum. | Dia. | Area | Circum. |
|---|---|---|---|---|---|---|---|---|
| 50 | 1963.5 | 157.080 | 54 | 2290.2 | 169.646 | 58 | 2642.1 | 182.212 |
| 1/8 | 1973.3 | 157.472 | 1/8 | 2300.8 | 170.039 | 1/8 | 2653.5 | 182.605 |
| 1/4 | 1983.2 | 157.865 | 1/4 | 2311.5 | 170.431 | 1/4 | 2664.9 | 182.998 |
| 3/8 | 1993.1 | 158.258 | 3/8 | 2322.1 | 170.824 | 3/8 | 2676.4 | 183.390 |
| 1/2 | 2003.0 | 158.650 | 1/2 | 2332.8 | 171.217 | 1/2 | 2687.8 | 183.783 |
| 5/8 | 2012.9 | 159.043 | 5/8 | 2343.5 | 171.609 | 5/8 | 2699.3 | 184.176 |
| 3/4 | 2022.8 | 159.436 | 3/4 | 2354.3 | 172.002 | 3/4 | 2710.9 | 184.569 |
| 7/8 | 2032.8 | 159.829 | 7/8 | 2365.0 | 172.395 | 7/8 | 2722.4 | 184.961 |
| 51 | 2042.8 | 160.221 | 55 | 2375.8 | 172.788 | 59 | 2734.0 | 185.354 |
| 1/8 | 2052.8 | 160.614 | 1/8 | 2386.6 | 173.180 | 1/8 | 2745.6 | 185.747 |
| 1/4 | 2062.9 | 161.007 | 1/4 | 2397.5 | 173.573 | 1/4 | 2757.2 | 186.139 |
| 3/8 | 2073.0 | 161.399 | 3/8 | 2408.3 | 173.966 | 3/8 | 2768.8 | 186.532 |
| 1/2 | 2083.1 | 161.792 | 1/2 | 2419.2 | 174.358 | 1/2 | 2780.5 | 186.925 |
| 5/8 | 2093.2 | 162.185 | 5/8 | 2430.1 | 174.751 | 5/8 | 2792.2 | 187.317 |
| 3/4 | 2103.3 | 162.577 | 3/4 | 2441.1 | 175.144 | 3/4 | 2803.9 | 187.710 |
| 7/8 | 2113.5 | 162.970 | 7/8 | 2452.0 | 175.536 | 7/8 | 2815.7 | 188.103 |
| 52 | 2123.7 | 163.363 | 56 | 2463.0 | 175.929 | 60 | 2827.4 | 188.496 |
| 1/8 | 2133.9 | 163.756 | 1/8 | 2474.0 | 176.322 | 1/8 | 2839.2 | 188.888 |
| 1/4 | 2144.2 | 164.148 | 1/4 | 2485.0 | 176.715 | 1/4 | 2851.0 | 189.281 |
| 3/8 | 2154.5 | 164.541 | 3/8 | 2496.1 | 177.107 | 3/8 | 2862.9 | 189.674 |
| 1/2 | 2164.8 | 164.934 | 1/2 | 2507.2 | 177.500 | 1/2 | 2874.8 | 190.066 |
| 5/8 | 2175.1 | 165.326 | 5/8 | 2518.3 | 177.893 | 5/8 | 2886.6 | 190.459 |
| 3/4 | 2185.4 | 165.719 | 3/4 | 2529.4 | 178.285 | 3/4 | 2898.6 | 190.852 |
| 7/8 | 2195.8 | 166.112 | 7/8 | 2540.6 | 178.678 | 7/8 | 2910.5 | 191.244 |
| 53 | 2206.2 | 166.504 | 57 | 2551.8 | 179.071 | 61 | 2922.5 | 191.637 |
| 1/8 | 2216.6 | 166.897 | 1/8 | 2563.0 | 179.463 | 1/8 | 2934.5 | 192.030 |
| 1/4 | 2227.0 | 167.290 | 1/4 | 2574.2 | 179.856 | 1/4 | 2946.5 | 192.423 |
| 3/8 | 2237.5 | 167.683 | 3/8 | 2585.4 | 180.249 | 3/8 | 2958.5 | 192.815 |
| 1/2 | 2248.0 | 168.075 | 1/2 | 2596.7 | 180.642 | 1/2 | 2970.6 | 193.208 |
| 5/8 | 2258.5 | 168.468 | 5/8 | 2608.0 | 181.034 | 5/8 | 2982.7 | 193.601 |
| 3/4 | 2269.1 | 168.861 | 3/4 | 2619.4 | 181.427 | 3/4 | 2994.8 | 193.993 |
| 7/8 | 2279.6 | 169.253 | 7/8 | 2630.7 | 181.820 | 7/8 | 3006.9 | 194.386 |

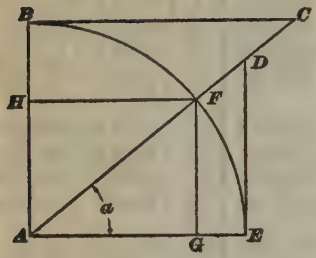
## FOR DIAMETERS IN UNITS AND FRACTIONS

| Dia. | Area | Circum. | Dia. | Area | Circum. | Dia. | Area | Circum. |
|---|---|---|---|---|---|---|---|---|
| 62 | 3019.1 | 194.779 | 66 | 3421.2 | 207.345 | 70 | 3848.5 | 219.911 |
| ⅛ | 3031.3 | 195.171 | ⅛ | 3434.3 | 207.738 | ⅛ | 3862.2 | 220.304 |
| ¼ | 3043.5 | 195.564 | ¼ | 3447.2 | 208.131 | ¼ | 3876.0 | 220.697 |
| ⅜ | 3055.7 | 195.957 | ⅜ | 3460.2 | 208.523 | ⅜ | 3889.8 | 221.090 |
| ½ | 3068.0 | 196.350 | ½ | 3473.2 | 208.916 | ½ | 3903.6 | 221.482 |
| ⅝ | 3080.3 | 196.742 | ⅝ | 3486.3 | 209.309 | ⅝ | 3917.5 | 221.875 |
| ¾ | 3092.6 | 197.135 | ¾ | 3499.4 | 209.701 | ¾ | 3931.4 | 222.268 |
| ⅞ | 3104.9 | 197.528 | ⅞ | 3512.5 | 210.094 | ⅞ | 3945.3 | 222.660 |
| 63 | 3117.2 | 197.920 | 67 | 3525.7 | 210.487 | 71 | 3959.2 | 223.053 |
| ⅛ | 3129.6 | 198.313 | ⅛ | 3538.8 | 210.879 | ⅛ | 3973.1 | 223.446 |
| ¼ | 3142.0 | 198.706 | ¼ | 3552.0 | 211.272 | ¼ | 3987.1 | 223.838 |
| ⅜ | 3154.5 | 199.098 | ⅜ | 3565.2 | 211.665 | ⅜ | 4001.1 | 224.231 |
| ½ | 3166.9 | 199.491 | ½ | 3578.5 | 212.058 | ½ | 4015.2 | 224.624 |
| ⅝ | 3179.4 | 199.884 | ⅝ | 3591.7 | 212.450 | ⅝ | 4029.2 | 225.017 |
| ¾ | 3191.9 | 200.277 | ¾ | 3605.0 | 212.843 | ¾ | 4043.3 | 225.409 |
| ⅞ | 3204.4 | 200.669 | ⅞ | 3618.3 | 213.236 | ⅞ | 4057.4 | 225.802 |
| 64 | 3217.0 | 201.062 | 68 | 3631.7 | 213.628 | 72 | 4071.5 | 226.195 |
| ⅛ | 3229.6 | 201.455 | ⅛ | 3645.0 | 214.021 | ⅛ | 4085.7 | 226.587 |
| ¼ | 3242.2 | 201.847 | ¼ | 3658.4 | 214.414 | ¼ | 4099.8 | 226.980 |
| ⅜ | 3254.8 | 202.240 | ⅜ | 3671.8 | 214.806 | ⅜ | 4114.0 | 227.373 |
| ½ | 3267.5 | 202.633 | ½ | 3685.3 | 215.199 | ½ | 4128.2 | 227.765 |
| ⅝ | 3280.1 | 203.025 | ⅝ | 3698.7 | 215.592 | ⅝ | 4142.5 | 228.158 |
| ¾ | 3292.8 | 203.418 | ¾ | 3712.2 | 215.984 | ¾ | 4156.8 | 228.551 |
| ⅞ | 3305.6 | 203.811 | ⅞ | 3725.7 | 216.337 | ⅞ | 4171.1 | 228.944 |
| 65 | 3318.3 | 204.204 | 69 | 3739.3 | 216.770 | 73 | 4185.4 | 229.336 |
| ⅛ | 3331.1 | 204.596 | ⅛ | 3752.8 | 217.163 | ⅛ | 4199.7 | 229.729 |
| ¼ | 3343.9 | 204.989 | ¼ | 3766.4 | 217.555 | ¼ | 4214.1 | 230.122 |
| ⅜ | 3356.7 | 205.382 | ⅜ | 3780.0 | 217.948 | ⅜ | 4228.5 | 230.514 |
| ½ | 3369.6 | 205.774 | ½ | 3793.7 | 218.341 | ½ | 4242.9 | 230.907 |
| ⅝ | 3382.4 | 206.167 | ⅝ | 3807.3 | 218.733 | ⅝ | 4257.4 | 231.300 |
| ¾ | 3395.3 | 206.560 | ¾ | 3821.0 | 219.120 | ¾ | 4271.8 | 231.692 |
| ⅞ | 3408.2 | 206.952 | ⅞ | 3834.7 | 219.519 | ⅞ | 4286.3 | 232.085 |

| Dia. | Area | Circum. | Dia. | Area | Circum. | Dia. | Area | Circum. |
|---|---|---|---|---|---|---|---|---|
| 74 | 4300.8 | 232.478 | 78 | 4778.4 | 245.044 | 82 | 5281.0 | 257.611 |
| 1/8 | 4315.4 | 232.871 | 1/8 | 4793.7 | 245.437 | 1/8 | 5297.1 | 258.003 |
| 1/4 | 4329.9 | 233.263 | 1/4 | 4809.0 | 245.830 | 1/4 | 5313.3 | 258.396 |
| 3/8 | 4344.5 | 233.656 | 3/8 | 4824.4 | 246.222 | 3/8 | 5329.4 | 258.789 |
| 1/2 | 4359.2 | 234.049 | 1/2 | 4839.8 | 246.615 | 1/2 | 5345.6 | 259.181 |
| 5/8 | 4373.8 | 234.441 | 5/8 | 4855.2 | 247.008 | 5/8 | 5361.8 | 259.574 |
| 3/4 | 4388.5 | 234.834 | 3/4 | 4870.7 | 247.400 | 3/4 | 5378.1 | 259.967 |
| 7/8 | 4403.1 | 235.227 | 7/8 | 4886.2 | 247.793 | 7/8 | 5394.3 | 260.359 |
| 75 | 4417.9 | 235.619 | 79 | 4901.7 | 248.186 | 83 | 5410.6 | 260.752 |
| 1/8 | 4432.6 | 236.012 | 1/8 | 4917.2 | 248.579 | 1/8 | 5426.9 | 261.145 |
| 1/4 | 4447.4 | 236.405 | 1/4 | 4932.7 | 248.971 | 1/4 | 5443.3 | 261.538 |
| 3/8 | 4462.2 | 236.798 | 3/8 | 4948.3 | 249.364 | 3/8 | 5459.6 | 261.930 |
| 1/2 | 4477.0 | 237.190 | 1/2 | 4963.9 | 249.757 | 1/2 | 5476.0 | 262.323 |
| 5/8 | 4491.8 | 237.583 | 5/8 | 4979.5 | 250.149 | 5/8 | 5492.4 | 262.716 |
| 3/4 | 4506.7 | 237.976 | 3/4 | 4995.2 | 250.542 | 3/4 | 5508.8 | 263.103 |
| 7/8 | 4521.5 | 238.368 | 7/8 | 5010.9 | 250.935 | 7/8 | 5525.3 | 263.501 |
| 76 | 4536.5 | 238.761 | 80 | 5026.5 | 251.327 | 84 | 5541.8 | 263.894 |
| 1/8 | 4551.4 | 239.154 | 1/8 | 5042.3 | 251.720 | 1/8 | 5558.3 | 264.286 |
| 1/4 | 4566.4 | 239.546 | 1/4 | 5058.0 | 252.113 | 1/4 | 5574.8 | 264.679 |
| 3/8 | 4581.3 | 239.939 | 3/8 | 5073.8 | 252.506 | 3/8 | 5591.4 | 265.072 |
| 1/2 | 4596.3 | 240.332 | 1/2 | 5089.6 | 252.898 | 1/2 | 5607.9 | 265.465 |
| 5/8 | 4611.4 | 240.725 | 5/8 | 5105.4 | 253.291 | 5/8 | 5624.5 | 265.857 |
| 3/4 | 4626.4 | 241.117 | 3/4 | 5121.2 | 253.684 | 3/4 | 5641.2 | 266.250 |
| 7/8 | 4641.5 | 241.510 | 7/8 | 5137.1 | 254.076 | 7/8 | 5657.8 | 266.643 |
| 77 | 4656.6 | 241.903 | 81 | 5153.0 | 254.469 | 85 | 5674.5 | 267.035 |
| 1/8 | 4671.8 | 242.295 | 1/8 | 5168.9 | 254.862 | 1/8 | 5691.2 | 267.428 |
| 1/4 | 4686.9 | 242.688 | 1/4 | 5184.9 | 255.254 | 1/4 | 5707.9 | 267.821 |
| 3/8 | 4702.1 | 243.081 | 3/8 | 5200.8 | 255.647 | 3/8 | 5724.7 | 268.213 |
| 1/2 | 4717.3 | 243.473 | 1/2 | 5216.8 | 256.040 | 1/2 | 5741.5 | 268.606 |
| 5/8 | 4732.5 | 243.866 | 5/8 | 5232.8 | 256.433 | 5/8 | 5758.3 | 268.999 |
| 3/4 | 4747.8 | 244.259 | 3/4 | 5248.9 | 256.825 | 3/4 | 5775.1 | 269.392 |
| 7/8 | 4763.1 | 244.652 | 7/8 | 5264.9 | 257.218 | 7/8 | 5791.9 | 269.784 |

| Dia. | Area | Circum. | Dia. | Area | Circum. | Dia. | Area | Circum. |
|---|---|---|---|---|---|---|---|---|
| 86 | 5808.8 | 270.177 | 90 | 6361.7 | 282.743 | 94 | 6939.8 | 295.310 |
| ⅛ | 5825.7 | 270.570 | ⅛ | 6379.4 | 283.136 | ⅛ | 6958.2 | 295.702 |
| ¼ | 5842.6 | 270.962 | ¼ | 6397.1 | 283.529 | ¼ | 6976.7 | 296.095 |
| ⅜ | 5859.6 | 271.355 | ⅜ | 6414.9 | 283.921 | ⅜ | 6995.3 | 296.488 |
| ½ | 5876.5 | 271.748 | ½ | 6432.6 | 284.314 | ½ | 7013.8 | 296.881 |
| ⅝ | 5893.5 | 272.140 | ⅝ | 6450.4 | 284.707 | ⅝ | 7032.4 | 297.273 |
| ¾ | 5910.6 | 272.533 | ¾ | 6468.2 | 285.100 | ¾ | 7051.0 | 297.666 |
| ⅞ | 5927.6 | 272.926 | ⅞ | 6486.0 | 285.492 | ⅞ | 7069.6 | 298.059 |
| 87 | 5944.7 | 273.319 | 91 | 6503.9 | 285.885 | 95 | 7088.2 | 298.451 |
| ⅛ | 5961.8 | 273.711 | ⅛ | 6521.8 | 286.278 | ⅛ | 7106.9 | 298.844 |
| ¼ | 5978.9 | 274.104 | ¼ | 6539.7 | 286.670 | ¼ | 7125.6 | 299.237 |
| ⅜ | 5996.0 | 274.497 | ⅜ | 6557.6 | 287.063 | ⅜ | 7144.3 | 299.629 |
| ½ | 6013.2 | 274.889 | ½ | 6575.5 | 287.456 | ½ | 7163.0 | 300.022 |
| ⅝ | 6030.4 | 275.282 | ⅝ | 6593.5 | 287.848 | ⅝ | 7181.8 | 300.415 |
| ¾ | 6047.6 | 275.675 | ¾ | 6611.5 | 288.241 | ¾ | 7200.6 | 300.807 |
| ⅞ | 6064.9 | 276.067 | ⅞ | 6629.6 | 288.634 | ⅞ | 7219.4 | 301.200 |
| 88 | 6082.1 | 276.460 | 92 | 6647.6 | 289.027 | 96 | 7238.2 | 301.593 |
| ⅛ | 6099.4 | 276.853 | ⅛ | 6665.7 | 289.419 | ¼ | 7276.0 | 302.378 |
| ¼ | 6256.7 | 277.246 | ¼ | 6683.8 | 289.812 | ½ | 7313.8 | 303.164 |
| ⅜ | 6134.1 | 277.638 | ⅜ | 6701.9 | 290.205 | ¾ | 7351.8 | 303.949 |
| ½ | 6151.4 | 278.031 | ½ | 6720.1 | 290.597 | 97 | 7389.8 | 304.734 |
| ⅝ | 6168.8 | 278.424 | ⅝ | 6738.2 | 290.990 | ¼ | 7428.0 | 305.520 |
| ¾ | 6186.2 | 278.816 | ¾ | 6756.4 | 291.383 | ½ | 7466.2 | 306.305 |
| ⅞ | 6203.7 | 279.209 | ⅞ | 6774.7 | 291.775 | ¾ | 7504.5 | 307.091 |
| 89 | 6221.1 | 279.602 | 93 | 6792.9 | 292.168 | 98 | 7543.0 | 307.876 |
| ⅛ | 6238.6 | 279.994 | ⅛ | 6811.2 | 292.561 | ¼ | 7581.5 | 308.661 |
| ¼ | 6256.1 | 280.387 | ¼ | 6829.5 | 292.954 | ½ | 7620.1 | 309.447 |
| ⅜ | 6273.7 | 280.780 | ⅜ | 6847.8 | 293.346 | ¾ | 7658.9 | 310.232 |
| ½ | 6291.2 | 281.173 | ½ | 6866.1 | 293.739 | 99 | 7697.7 | 311.018 |
| ⅝ | 6308.8 | 281.565 | ⅝ | 6884.5 | 294.132 | ¼ | 7736.6 | 311.803 |
| ¾ | 6326.4 | 281.958 | ¾ | 6902.9 | 294.524 | ½ | 7775.6 | 312.588 |
| ⅞ | 6344.1 | 282.351 | ⅞ | 6921.3 | 294.917 | ¾ | 7814.8 | 313.374 |

# FORMULAS.




For Radius, $AE=1$

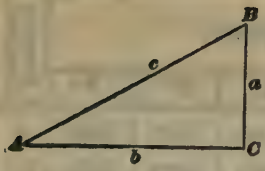
$FG=\sin a$ $\quad AG=\cos a$
$DE=\tan a$ $\quad BC=\cot a$
$AD=\sec a$ $\quad AC=\csc a$
$GE=\text{vers } a$
$BH=\text{covers } a$

$$\sin^2 a+\cos^2 a=1 \qquad \tan a=\frac{\sin a}{\cos a}$$
$$\sec^2 a=1+\tan^2 a$$
$$\csc^2 a=1+\cot^2 a \qquad \cot a=\frac{\cos a}{\sin a}$$

$$\text{vers } a=1-\cos a$$
$$\text{covers } a=1-\sin a$$

| | | | | |
|---|---|---|---|---|
| **sin** $a$ | | $\sqrt{1-\cos^2 a}$ | $\frac{\tan a}{\sqrt{1+\tan^2 a}}$ | $\frac{1}{\sqrt{1+\cot^2 a}}$ |
| **cos** $a$ | $\sqrt{1-\sin^2 a}$ | | $\frac{1}{\sqrt{1+\tan^2 a}}$ | $\frac{\cot a}{\sqrt{1+\cot^2 a}}$ |
| **tan** $a$ | $\frac{\sin a}{\sqrt{1-\sin^2 a}}$ | $\frac{\sqrt{1-\cos^2 a}}{\cos a}$ | | $\frac{1}{\cot a}$ |
| **cot** $a$ | $\frac{\sqrt{1-\sin^2 a}}{\sin a}$ | $\frac{\cos a}{\sqrt{1-\cos^2 a}}$ | $\frac{1}{\tan a}$ | |

## RIGHT TRIANGLE.




$$a^2+b^2=c^2$$

$$\frac{a}{b}=\tan A=\cot B \qquad \frac{b}{a}=\cot A=\tan B$$

$$\frac{a}{c}=\sin A=\cos B \qquad \frac{c}{a}=\csc A=\sec B$$

$$\frac{b}{c}=\cos A=\sin B \qquad \frac{c}{b}=\sec A=\csc B$$

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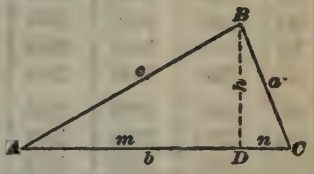
## OBLIQUE-ANGLED TRIANGLE.

**Notation:** $A\,B=c$ $B\,C=a$ $A\,C=b$ $B\,D=h$ $A\,D=m$ $D\,C=n$




| Given | Required | FORMULAS |
|---|---|---|
| $A, B, a$ | $C, b, c$ | $A+B+C=180°$; $b=\frac{a \sin B}{\sin A}$; $c=\frac{a \sin C}{\sin A}$ |
| $b, c, A$ | $B, C, a$ | $\tan \frac{1}{2}(B-C)=\tan \frac{1}{2}(B+C)\times\frac{b-c}{b+c}$; $a^2=b^2+c^2-2bc \cos A$; or $h=c \sin A$; $m=c \cos A$; $n=b-m$; $a^2=h^2+n^2$ |
| $a, c, A$ | $C, B, b$ | $\sin C=\sin A\times\frac{c}{a}$; $B=180°-(A+C)$; $b=a\times\frac{\sin B}{\sin A}$. NOTE—Two values for $C$, $B$, and $b$ are possible. |
| $a, b, c$ | $A$ | $\sin\frac{A}{2}=\sqrt{\frac{(s-b)\ (s-c)}{b\times c}}$; $\cos\frac{A}{2}=\sqrt{\frac{s\ (s-a)}{b\times c}}$; $\tan\frac{A}{2}=\sqrt{\frac{(s-b)\ (s-c)}{s\ (s-a)}}$; in which $s=\frac{1}{2}(a+b+c)$ |
| $a, b, c$ | $m, n$ | $m=\frac{c^2+b^2-a^2}{2b}$; $n=\frac{a^2+b^2-c^2}{2b}$ |

# DECIMAL EQUIVALENTS.

| Fractions of an inch. | DECIMALS OF A FOOT. | | | | | | | Fractions of an inch. |
|---|---|---|---|---|---|---|---|---|
| | 0″ | 1″ | 2″ | 3″ | 4″ | 5″ | 6″ | |
| 0 | .0000 | .0833 | .1667 | .2500 | .3333 | .4167 | .5000 | 0 |
| 1/32 | .0026 | .0859 | .1693 | .2526 | .3359 | .4193 | .5026 | 1/32 |
| 1/16 | .0052 | .0885 | .1719 | .2552 | .3385 | .4219 | .5052 | 1/16 |
| 3/32 | .0078 | .0911 | .1745 | .2578 | .3411 | .4245 | .5078 | 3/32 |
| 1/8 | .0104 | .0938 | .1771 | .2604 | .3438 | .4271 | .5104 | 1/8 |
| 5/32 | .0130 | .0964 | .1797 | .2630 | .3464 | .4297 | .5130 | 5/32 |
| 3/16 | .0156 | .0990 | .1823 | .2656 | .3490 | .4323 | .5156 | 3/16 |
| 7/32 | .0182 | .1016 | .1849 | .2682 | .3516 | .4349 | .5182 | 7/32 |
| 1/4 | .0208 | .1042 | .1875 | .2708 | .3542 | .4375 | .5208 | 1/4 |
| 9/32 | .0234 | .1068 | .1901 | .2734 | .3568 | .4401 | .5234 | 9/32 |
| 5/16 | .0260 | .1094 | .1927 | .2760 | .3594 | .4427 | .5260 | 5/16 |
| 11/32 | .0286 | .1120 | .1953 | .2786 | .3620 | .4453 | .5286 | 11/32 |
| 3/8 | .0313 | .1146 | .1979 | .2813 | .3646 | .4479 | .5313 | 3/8 |
| 13/32 | .0339 | .1172 | .2005 | .2839 | .3672 | .4505 | .5339 | 13/32 |
| 7/16 | .0365 | .1198 | .2031 | .2865 | .3698 | .4531 | .5365 | 7/16 |
| 15/32 | .0391 | .1224 | .2057 | .2891 | .3724 | .4557 | .5391 | 15/32 |
| 1/2 | .0417 | .1250 | .2083 | .2917 | .3750 | .4583 | .5417 | 1/2 |
| 17/32 | .0443 | .1276 | .2109 | .2943 | .3776 | .4609 | .5443 | 17/32 |
| 9/16 | .0469 | .1302 | .2135 | .2969 | .3802 | .4635 | .5469 | 9/16 |
| 19/32 | .0495 | .1328 | .2161 | .2995 | .3828 | .4661 | .5495 | 19/32 |
| 5/8 | .0521 | .1354 | .2188 | .3021 | .3854 | .4688 | .5521 | 5/8 |
| 21/32 | .0547 | .1380 | .2214 | .3047 | .3880 | .4714 | .5547 | 21/32 |
| 11/16 | .0573 | .1406 | .2240 | .3073 | .3906 | .4740 | .5573 | 11/16 |
| 23/32 | .0599 | .1432 | .2266 | .3099 | .3932 | .4766 | .5599 | 23/32 |
| 3/4 | .0625 | .1458 | .2292 | .3125 | .3958 | .4792 | .5625 | 3/4 |
| 25/32 | .0651 | .1484 | .2318 | .3151 | .3984 | .4818 | .5651 | 25/32 |
| 13/16 | .0677 | .1510 | .2344 | .3177 | .4010 | .4844 | .5677 | 13/16 |
| 27/32 | .0703 | .1536 | .2370 | .3203 | .4036 | .4870 | .5703 | 27/32 |
| 7/8 | .0729 | .1563 | .2396 | .3229 | .4063 | .4896 | .5729 | 7/8 |
| 29/32 | .0755 | .1589 | .2422 | .3255 | .4089 | .4922 | .5755 | 29/32 |
| 15/16 | .0781 | .1615 | .2448 | .3281 | .4115 | .4948 | .5781 | 15/16 |
| 31/32 | .0807 | .1641 | .2474 | .3307 | .4141 | .4974 | .5807 | 31/32 |
| 1 | .0833 | .1667 | .2500 | .3333 | .4167 | .5000 | .5833 | 1 |

# DECIMAL EQUIVALENTS.

| Fractions of an inch. | DECIMALS OF A FOOT. | | | | | Fractions of an inch. | Decimals of an inch |
|---|---|---|---|---|---|---|---|
| | 7″ | 8″ | 9″ | 10″ | 11″ | | |
| 0 | .5833 | .6667 | .7500 | .8333 | .9167 | 0 | .00000 |
| 1/32 | .5859 | .6693 | .7526 | .8359 | .9193 | 1/32 | .03125 |
| 1/16 | .5885 | .6719 | .7552 | .8385 | .9219 | 1/16 | .06250 |
| 3/32 | .5911 | .6745 | .7578 | .8411 | .9245 | 3/32 | .09375 |
| 1/8 | .5938 | .6771 | .7604 | .8438 | .9271 | 1/8 | .12500 |
| 5/32 | .5964 | .6797 | .7630 | .8464 | .9297 | 5/32 | .15625 |
| 3/16 | .5990 | .6823 | .7656 | .8490 | .9323 | 3/16 | .18750 |
| 7/32 | .6016 | .6849 | .7682 | .8516 | .9349 | 7/32 | .21875 |
| 1/4 | .6042 | .6875 | .7708 | .8542 | .9375 | 1/4 | .25000 |
| 9/32 | .6068 | .6901 | .7734 | .8568 | .9401 | 9/32 | .28125 |
| 5/16 | .6094 | .6927 | .7760 | .8594 | .9427 | 5/16 | .31250 |
| 11/32 | .6120 | .6953 | .7786 | .8620 | .9453 | 11/32 | .34375 |
| 3/8 | .6146 | .6979 | .7813 | .8646 | .9479 | 3/8 | .37500 |
| 13/32 | .6172 | .7005 | .7839 | .8672 | .9505 | 13/32 | .40625 |
| 7/16 | .6198 | .7031 | .7865 | .8698 | .9531 | 7/16 | .43750 |
| 15/32 | .6224 | .7057 | .7891 | .8724 | .9557 | 15/32 | .46875 |
| 1/2 | .6250 | .7083 | .7917 | .8750 | .9583 | 1/2 | .50000 |
| 17/32 | .6276 | .7109 | .7943 | .8776 | .9609 | 17/32 | .53125 |
| 9/16 | .6302 | .7135 | .7969 | .8802 | .9635 | 9/16 | .56250 |
| 19/32 | .6328 | .7161 | .7995 | .8828 | .9661 | 19/32 | .59375 |
| 5/8 | .6354 | .7188 | .8021 | .8854 | .9688 | 5/8 | .62500 |
| 21/32 | .6380 | .7214 | .8047 | .8880 | .9714 | 21/32 | .65625 |
| 11/16 | .6406 | .7240 | .8073 | .8906 | .9740 | 11/16 | .68750 |
| 23/32 | .6432 | .7266 | .8099 | .8932 | .9766 | 23/32 | .71875 |
| 3/4 | .6458 | .7292 | .8125 | .8958 | .9792 | 3/4 | .75000 |
| 25/32 | .6484 | .7318 | .8151 | .8984 | .9818 | 25/32 | .78125 |
| 13/16 | .6510 | .7344 | .8177 | .9010 | .9844 | 13/16 | .81250 |
| 27/32 | .6536 | .7370 | .8203 | .9036 | .9870 | 27/32 | .84375 |
| 7/8 | .6563 | .7396 | .8229 | .9063 | .9896 | 7/8 | .87500 |
| 29/32 | .6589 | .7422 | .8255 | .9089 | .9922 | 29/32 | .90625 |
| 15/16 | .6615 | .7448 | .8281 | .9115 | .9948 | 15/16 | .93750 |
| 31/32 | .6641 | .7474 | .8307 | .9141 | .9974 | 31/32 | .96875 |
| 1 | .6667 | .7500 | .8333 | .9167 | 1.0000 | 1 | 1.00000 |

## CONSTANTS FREQUENTLY USED IN COMPUTATIONS

| | LOG. |
|---|---|
| $\pi = 3.14159265$ | 0.49715 |
| $\frac{\pi}{4} = 0.78539816$ | 9.89509−10 |
| $\frac{1}{\pi} = 0.31830989$ | 9.50285−10 |
| $\sqrt{\pi} = 1.77245385$ | 0.24857 |
| $\pi^2 = 9.86960440$ | 0.99430 |
| $\sqrt{2} = 1.41421356$ | 0.15051 |
| $\sqrt{\frac{1}{2}} = 0.70710678$ | 9.84949−10 |

Circumference of a circle whose diameter is 1′ 0″ equals $\pi$ feet, nearly 3′ $1\frac{45}{64}$″

### Length of Arc for Diameter 1′ 0″

| | LOG. |
|---|---|
| Arc of 1° = 0.0087266 of a foot, nearly $\frac{7}{64}$ of an inch | 7.94085−10 |
| Arc of 1′ = 0.0001454 of a foot | 6.16270−10 |

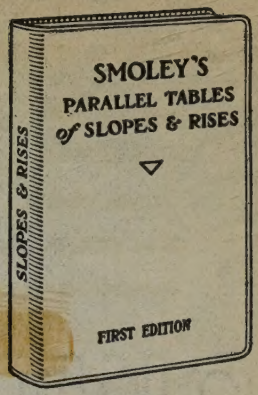
### Length of Arc for Radius 1′ 0″

| | |
|---|---|
| Arc of 1° = 0.0174532 of a foot, nearly $\frac{7}{32}$ of an inch | 8.24188−10 |
| Arc of 1′ = 0.0002908 of a foot | 6.46373−10 |

1 foot = .304801 meter
1 inch = 2.54001 centimeters
$\frac{1}{64}$ of an inch = .39688 millimeter
$\frac{1}{32}$ of an inch = .79375 millimeter
$\frac{1}{16}$ of an inch = 1.58750 millimeters
$\frac{1}{8}$ of an inch = 3.17501 millimeters

1 millimeter = .03937 inch (nearly $\frac{5}{128}$″)
1 centimeter = .3937 inch (nearly $\frac{25}{64}$″)
1 meter = 3.280833 feet (nearly 3′ $3\frac{3}{8}$″)

# READY SOLUTIONS *of* RIGHT TRIANGLES

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